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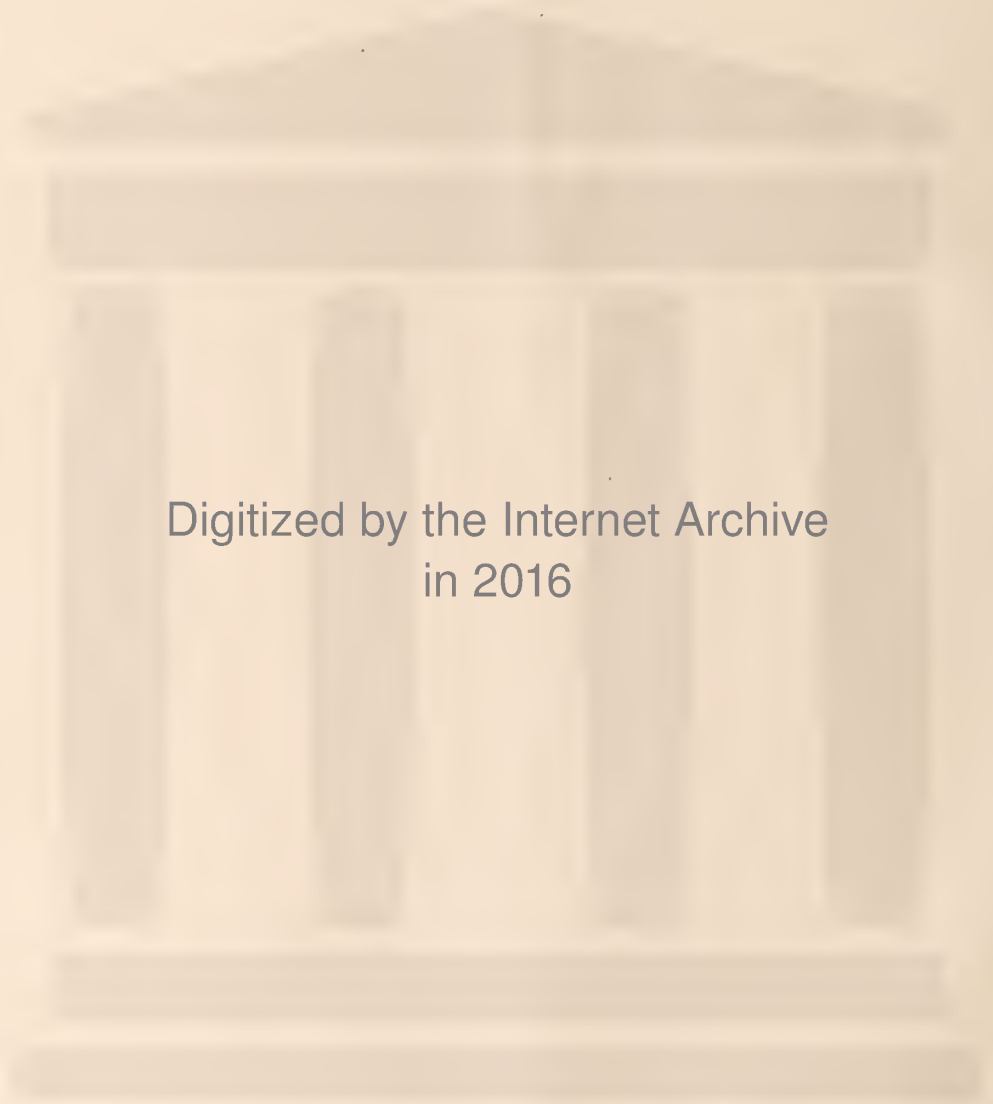


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STRICTURE OF THE LACHRYMONASAL DUCT*

By M. A. Hughes, M. D.

SALT LAKE, UTAH

The lachrymal passages begin with the puncta lacrimalia. These little points lie on the free border of the upper and lower lid, and at the inner extremity of the lids at a point where the tarsus terminates. They are situated on small prominences, the lachrymal papillæ, and form the orifices of the lachrymal canals. The canal in the upper lid runs upward slightly, and in the lower lid slightly downwards; then they bend at right angles to enter the lachrymal sac. Into this they enter separately or from a short common trunk. At the inner canthus of the eye the lachrymal sac is situated. The lachrymal bone bounds the sac on the inner side, while to the front and end side it is inclosed by the middle palpebral ligament. This relation of the lachrymal to the internal palpebral ligament enables us to determine the position of the sac—a matter of importance when operations are concerned—at a spot where the cleft of the lachrymal bone merges into the bony canal. This is the narrowest part of the canal and is especially liable to stricture. From this point the canal passes downwards, and enters into the nose just below the inferior turbinated body. The mucous membrane of the sac and duct forms a continuous whole. The posterior wall of the lachrymal sac, being bony, makes this part easily distended by the presence of fluids. The structures comprising the front of the sac, being soft and yielding, are easily distended, and this is shown by the swelling at this point. The duct proper is unyielding, hence, congestions, resulting from colds, produce strictures within the tear-duct, and they become manifest by the overflow of tears primarily, and as a secondary condition we have the swelling and phlegmonous conditions that characterize the interference with the drainage of the eye. The physiological action of the tears is to lubricate the eye. Most of the tears are supplied by the lachrymal glands, but the conjunctival surface furnishes a considerable quantity of these. In the act of winking the tears are carried, by gentle compression of the lids, into the puncta, a valve-like action is also produced on the tear sacs by the compression of the lids in the act of winking, and if no obstruction exists in the tear channels the eyes are properly drained. The remote effects of stricture of the tear-ducts are shown in ulcers of the cornea and ectropion. The immediate effects are manifest in the annoyance from constantly wiping the eyes, and from the nose a serious phlegmonous type of inflammation arises, which attacks the tear-sac.

The frequency with which these strictures are met with makes it important that the causative factors should be early understood, and, as far as may be, thoroughly removed. Diseases of the nasal mucosa, in perhaps the majority of instances, are accountable for these strictures. In the treatment of a large number of these—in fact, in more than two-thirds of the cases—I found mucous hypertrophies, hypertrophy of the turbinated bodies, or deviations of the nasal septa, as causative of the epiphora or stricture which resulted. I know of no class of cases which will give a physician more annoyance than these when the stricture is located in the bony portion of the tear-duct; for in this class of cases you are so apt to find a chronic inflammation of the tear-sac and all its accompanying disagree-

*Delivered at the Utah State Medical Association, Ogden, Utah, May 10 and 11, 1904.

able features to the patient. The old-time method of treating these conditions by simply slitting up the tear-duct with a canaliculous knife, and passing the Bowman's probes, from time to time, will not, in my opinion, establish the patency of the duct, and relieve the patient from the annoyances incident to these strictures. Schmidt Rimpler, in the last edition of his work on "Diseases of the Eye," recommends that if the duct does not remain patent after passing the probe for a few weeks' time, it should be discontinued, as the tendency to closure and repeated forcible opening of the duct only tends to keep up irritation, and consequently does no good.

After opening the duct our attention should be directed to the condition of the nose, and if any of the maladies or diseases above referred to are found they should be treated according to the latest and most approved methods, for without attention to the latter, most of these cases cannot be cured. Hence will appear the importance to the oculist of something of an intimate knowledge of diseases of the upper air passages in dealing with these strictures of the tear-duct.

In a case treated by me not long since (a woman from one of the towns of Idaho), a large ulcer of the cornea, accompanied by a great deal of pain, lachrymation, and photopbobia, intense conjunctival injection was also present, and over the lachrymal sac a noticeable degree of bulging. I slit up the duct, and through the inferior puncture made an incision through to the sac, evacuating half a teaspoonful of pus, and washed the sac out well with a bichloride, 1 to 10,000 solution. This solution was made use of daily for the purpose named, and a Bowman's probe was passed down the tear-duct. Attention was given to the ulcer of the cornea, a solution of atropia and Pagensticher's ointment being used until the eye was relieved from inflammation.

Now, as regards the condition of the nose in this case: I found a marked degree of deviation of the septum on the side corresponding to the affected eye, and with the parts thoroughly under the influence of cocaine, I removed with a Bosworth's nasal saw a portion of bone one inch in length, one-half inch in width, and probably one-sixteenth inch in thickness. Back of this was found a hypertrophied turbinated body, which was removed with a nasal gouge. The plan of treatment above outlined was carried out for about four weeks, when the patient left for her home. For a number of weeks after leaving here she has, at my suggestion, had her family physician pass the probe once a week, and in a letter received from her six weeks ago she stated that her eye was in good condition, at least she had no annoyance from it.

This case is cited here to show the importance of the pathological conditions of the nose in causing and keeping up these strictures of the lachrymal duct.

I do not believe that all the cases presented to us require slitting up with a knife and passing a probe. Many of these cases may be effectually treated by removing the primary cause, namely, the relief of hypertrophies, hard and soft, and deviations of the nasal septa or errors of refraction. If relief is not obtained by the means just mentioned, then the punctum may be slit by the iris scissors. This failing, the entire duct should be slit up, and the graduated stretching resorted to by methods already indicated.

The following is a case under my treatment at present:

Mr. E——, aged 27, has had overflowing of tears in each eye for about ten years; has had attacks of phlegmon of the lachrymal sacs, followed by a fistulous opening over the center of the sac in the right eye, and a fistula in the upper lid of the left eye, above the superior punctum. The treatment consisted in slitting up each duct (the left one being almost completely occluded), and passing the Bowman's probe down through the bony portion, washing out the sac with boracic acid and sublimate solutions, and cauterizing the fistulous openings with pure nitrate of silver, in the hope of healing or closing the fistulæ. This patient, who has been under my care for four weeks, is doing well, and the tears pursue the normal course with complete closure of the fistulæ.

I have been unable to find anything in the condition of the nose, aside from a slight hypertrophic type of catarrh, that would account for the strictures in this case. The old method of placing a stylet of silver or lead in the duct, curved at the upper extremity to hold it in situ, has been long since abandoned, as, I think, it was certainly shown that it served only as an

irritant. The object to be kept in mind is to relieve these parts as much as possible from all sources of irritation.

In regard to the treatment of chronic inflammation of the tear-sac, it has been recommended to pass an instrument shaped much like a canaliculous knife, roughened at its extremity, down into the tear-sac, and by friction to thoroughly break up the lining thereof, in the hope that this may destroy the integrity of the walls, and overcome the chronic suppuration.

In Fuch's work on "Diseases of the Eye," cauterizing either with the galvanic or chemical cautery, is recommended. The latter plan I have made use of in several cases with good results. A. von Graefe advises, in the obstinate class of these cases, to cut down through the skin, dissecting out the sac and bringing the lips of the wound together. Under strict antiseptic precautions, sloughing seldom takes place, and a good result follows.

In the treatment of chronic inflammation of the tear-sac, the use of astringents is highly useful. This is especially true of the newer derivatives of silver nitrate. I regard argyrol, 15 to 20 grains in distilled water, as an exceedingly valuable remedy in these cases. And if the conditions be such that we cannot see the patient every day, we may give him a 10 per cent solution of this remedy to use himself. Protargol is also valuable in these cases, but this should be somewhat stronger than the previous astringent. Adrenalin chlorid, 1 to 10,000, is highly useful in these cases.

We must not overlook the fact that errors of refraction cut an important figure in causing many of these cases of overflow of tears, and when these errors exist they ought to be corrected. Then, too, the general health should not be overlooked, and proper attention should be given to the correction of any deviations from the normal as regards the general health. A gradual process of dilatation with Bowman's probes, from No. 1 to No. 6, is usually sufficient in the majority of cases.

From the foregoing the following summary might be made:

1. Strictures of the lachrymonasal duct, in the majority of instances, are due to disease of the nasal mucosa or to bony hypertrophy of the turbinated bodies, or deviations of the nasal septa, and occasionally to error of refraction.

2. A rather intimate knowledge of the conditions indicated, with their proper treatment, is an essential factor to success in the care of disease of the tear-channels.

3. In the foregoing pages I have endeavored to suggest the means that are more generally recognized as the most efficacious in relieving the nose of those obstructions and sources of irritation which are known to cause, in the majority of instances, strictures of the tear-channels.

4. The majority of cases are amenable to the treatment that I have outlined, but a proportion of cases will resist any line of treatment with which I am at all familiar, and will hang on perhaps for months and even years.

5. The surgical treatment of diseases of the nose and the relation of the tear-duct ought to be thoroughly understood by those who are called upon to treat this class of cases.

DISCUSSION

Dr. S. L. Brick: Unfortunately for me I was absent when the paper was read. I just heard the last word as I came in. I assume the paper was on the usual lines, and the doctor guaranteed to me that the paper would be principally upon lachrymal stenosis and the relation that catarrh has to the production of this condition. Almost all such strictures are due to catarrhal conditions or anatomical malformations of the nasal region. The cause is always below. I have never seen a case where the stricture was caused by conjunctivitis. I cannot, of course, intelligently discuss the paper because I didn't hear it. Of course, the treatment of lachrymal troubles is purely surgical, nothing in a medical way can be done, and my success of late years has been better than formerly. Formerly we were taught to use small probes, but since using large probes the results have been more marked, and one can in almost all cases promise the patient absolute relief by using large probes.

Dr. Lyman Skeen, Jr.: I have seen a good deal of work along this line, and will agree with others that the case is surgical, and it is not an uncommon thing to resort to total extirpation of the sack. Many cases of this type are very refractory, and a relief of the condition entirely is not uncommon.

Dr. A. E. Lyons: As Dr. Brick says, I think he does right in those cases in using large probes. Many of our cases of such stricture can be opened up and cured by the use of Bowman's probes.

Dr. M. A. Hughes (Essayist): I have nothing further to say. I have the authority of an eminent specialist in Philadelphia, and he says he never uses a probe larger than a No. 8, which would be perhaps two millimetres in diameter. He says he gets his best results from these probes. Of course, the paper I have given is only an outline of what should be followed out in the way of treatment. I thank the gentlemen for their kind attention.

REMOVAL OF THE COVERING OF THE OVARIES IN OVARIAN DYSMENORRHEA: A PRELIMINARY STUDY*

By George G. Eitel, M. D.

MINNEAPOLIS

There are quite a number of so-called varieties of dysmenorrhea, due to certain pathologic conditions of the uterus, tubes, and ovaries. Various classifications are given by different authors, such as neuralgic, congestive, inflammatory, obstructive, membranous, ovarian, etc. In order to make this paper as brief as possible only the ovarian variety will be discussed.

Many women between the ages of 16 and 40 suffer intensely from ovarian dysmenorrhea. Most of these patients give a history of their periodical suffering as beginning a year or two after menstruation became established, and increasing in severity from year to year in spite of all medical treatment. There are also some cases where the dysmenorrhea does not come on until somewhat later in life, say, at the age of twenty.

Sufferers from ovarian dysmenorrhea are not confined to any distinct class of society. They are found among all classes, in the country on farms, as well as in the villages and cities. They are usually, however, according to the writer's observations, persons who have done a great deal of worrying during the years of their physical development. Some of these patients enjoy quite good general health, aside from their periodical suffering, while others are almost complete physical and mental wrecks.

All of the severe cases of ovarian dysmenorrhea among the married that it has been the opportunity of the writer to study gave a history of never having been pregnant. In all of the cases examined with a sound it was found that the cervical canal was patulous.

Patients suffering from this form of dysmenorrhea have ovaries that are covered with a tough and greatly thickened serous covering. Under this covering are found small cysts, varying in size from that of a small pea to a small marble. The periodical pain seems to be in proportion to the thickness and the extent that this covering of the ovaries exists, and thus prevents the dehiscence of the Graafian follicles. The covering of the ovaries is generally very tense. This is especially found to be so in cases operated upon at a time when the suffering is still great, as the writer has had occasion to observe in a number of instances.

What to do with these cystic ovaries has been a subject for discussion on many occasions. Some surgeons favor oöphorectomy, others resection, and still others advise puncturing the cysts. None of these methods has been satisfactory in all instances. The removal of the ovaries, thereby bringing about the menopause, produces in many cases very bad nervous and mental effects; and this is especially true of women who are naturally of a melancholy disposition. Resection and puncturing the cysts always gives more or less relief for a short time, but the patient will then be obliged either to have a more radical operation performed or to continue to suffer until the menopause, as the following cases will illustrate:

Case I.—Miss A——, who began to menstruate at the age of 13, but did not suffer much pain at the menstrual period until her 19th year, from which time she grew worse from month to month. She was treated by several well qualified physicians, but no one succeeded in giving her permanent relief. As her suffering got beyond endurance, she was directed to the writer for an operation. A median abdominal incision was made. The right ovary was found to be somewhat larger than normal, and was covered with a very thick and tough covering, under which were closely studded many small cysts. The portion of the ovary that contained the greater number of cysts was resected, while in the other portion the more scattering cysts were punctured or incised with a scalpel. The left ovary was perfectly normal in size, and its covering thin and soft, and there were no cysts. This patient made

*Read before the Western Surgical and Gynecological Association at Milwaukee, Wis., December 28 and 29, 1904.

a very prompt recovery, and was entirely free from dysmenorrhea for five periods when the pain gradually came on again, and got worse with each succeeding period until she became fully as great a sufferer as before. She underwent another abdominal section, and the right ovary was again found to contain cysts and the capsule very tense. At this time the ovary was removed, after which the patient again enjoyed first-class health for over three years; but she is now suffering considerably at her menstrual periods, and in all probability the remaining ovary is also becoming cystic.

It is now over four years since the writer began to remove the thickened covers of the ovaries, and, in most instances, with complete relief of the dysmenorrhea. His success has especially been most gratifying in cases where no tubal inflammation co-existed, and also since his technique was improved by shortening of the utero-ovarian ligament, thus preventing the ovaries from prolapsing and possibly becoming adherent in a very undesirable position.

The writer has operated upon twenty-six cases, all of whom have improved as nearly as it is possible for him to learn. Some declare that they are entirely well as far as their dysmenorrhea is concerned.

As above mentioned, the married women suffering from ovarian dysmenorrhea gave a history of never having been pregnant; and thus far the writer has no knowledge of any having become pregnant since operated upon, although the menstrual periods have been regular in every respect so far as it is possible for the writer to ascertain. Of the twenty-six patients operated upon, nine were maidens and seventeen were married women.

Technique of Operation.—The ovary is brought into clear view through a median abdominal incision; and one hemostatic forceps is placed at the juncture of the utero-ovarian ligament and ovary, and another on the upper border of the broad ligament close to the ovary (lateral). By means of these two forceps the ovary is held by an assistant in the proper position, while the operator makes an incision with a sharp scalpel from the ovarian ligament across the ovary to the attachment of the broad ligament, through the covering, and then carefully dissects one side, and then the other, down as far as cysts are encountered. The flaps of the covering of the ovary are now trimmed off, preferably by means of a pair of scissors. This having been done the utero-ovarian ligament is shortened by doubling it upon itself in a similar manner as is in vogue in shortening the round ligaments, in order to hold the uterus in a normal position. There is generally some hemorrhage as the base of the ovary is approached, which can easily be controlled by pressure-clamps and fine ligatures.

Adhesions.—The writer will not be surprised to have objections made to this operation on the ground that adhesions will form after stripping the ovaries of their peritoneal covering. While this may be so in some cases, it is safe to say that they can be limited to the case where there exists, or has at some time existed, an inflammatory condition which produced adhesions that had to be broken up at the time of the operation; but if no other raw or injured peritoneal surfaces exist there will be absolutely no danger of adhesions forming. It has been the writer's opportunity to re-open the abdomen in two of his cases some months after the first operation. One was for an appendectomy in which both ovaries were found to be rather small, but no adhesions whatsoever could be found. The other case was for retroversion of the uterus, where a ventrosuspension and removal of a diseased left Fallopian tube had been made at the time of the operation. In fact, the latter operation was considered of secondary importance. In this case the left ovary was found adherent to the stump of the Fallopian tube, but the right ovary was perfectly smooth, rather small, and entirely free from cysts, the surface of the ovary being soft and smooth.

Case II.—Mrs. G——, aged 23, American, married, was admitted to the hospital November 5, 1903. She has always been well, with the exception of occasional attacks of indigestion. Menstruation appeared at the age of 14. The first day of the menstrual period the patient suffered with considerable pain of a cramping character. The second day the pain increased in intensity, and was felt over the entire abdomen. During this last year since her marriage the pain has been worse. The patient has never been pregnant. Upon operation, November, 1903, both ovaries were found cystic, and covered with a

dense fibrous capsule. The cysts were punctured, the capsules dissected off carefully, and the ovaries attached to the cornua of the uterus, which in turn was anchored to the abdominal wall.

Since the operation the patient has complained of pain during the menstrual period, but its severity is lessening each month, and she is improving in general health.

Case III.—Miss A. J. J——, a Swede, aged 23 years, was perfectly well until she had typhoid four years ago. Since then she has menstruated every two or three weeks. At each period the patient lost an excessive amount of blood. On examination the pelvic organs seemed normal, with the exception of sensitiveness over the ovaries, which was greater on the right side. She was operated upon December 8, 1903, at St. Barnabas Hospital. The ovarian capsules were found to be dense and fibrous, and the ovaries were cystic. After the cysts were punctured and the capsules dissected off, the denuded ovaries were rubbed with the omentum and replaced in the pelvis. Her convalescence was uninterrupted. Since leaving the hospital she has gained constantly and rapidly. Her entire appearance has changed, and there has been no menstrual pain since the operation. The interval between the periods is gradually lengthening, while the amount of blood lost each time is markedly diminished. She is gaining in flesh, in color, and in spirits.

Case IV.—Miss B. O——, Swede, aged 21 years, has been a teacher in our public schools for three years. Since maturity, which occurred during her 14th year, she has suffered with intense pain at the menstrual periods. This pain invariably began two or three days before the flow was established, continued during the period, and lasted from a few days to a week after the cessation of the flow. Instead of being central or in the uterus, the cramps were in the ovaries, and worse on the left side. On palpation the left ovary and tube were found to be extremely sensitive. The patient had become so reduced in strength from this suffering that she has been unable to teach since the autumn of 1903.

On operation both ovaries were found to be cystic and covered with dense, fibrous capsules. After the cysts had been punctured the capsules were dissected away, the wound was closed, and the patient put in the lithotomy position. In order that the woman should be doubly protected from a recurrence of her dysmenorrhea, the cervix was thoroughly dilated, although the cervical canal was perfectly normal.

This patient is entirely free from all pain at her periods, and her general health has very greatly improved, it being almost a year since the time of operation.

Case V.—Miss M. N——, an unmarried woman, aged 23 years. This patient says she has never enjoyed rugged health. Since the establishment of the menstrual flow, at 13 years, she has been troubled greatly with dysmenorrhea as well as with sensitive and sore ovaries. She is the only one of her family who is similarly troubled. Her work, she thinks, has largely aggravated the trouble. Being a dressmaker, she frequently runs the sewing-machine all day. As in the above quoted cases, the dense capsules were dissected from the ovaries. After the operation, in February, 1903, she was greatly relieved for several months. Her general health is somewhat better. The pain, however, has reappeared at the beginning of the last three periods. It lasts for the first few hours or until the establishment of the flow.

Case VI.—Miss S——, aged 21 years, began to menstruate at the age of 13, and has since been a great sufferer at her periods. She also suffered two attacks of appendicitis, on account of which she was sent to the writer by her physician. Since she gave a clear history of ovarian dysmenorrhea, a median incision was made in order to examine the ovaries at the time of the appendectomy. After the appendix was removed the ovaries were found to be cystic, and therefore the serous covers were dissected off and the utero-ovarian ligament shortened. After nearly a year the patient is still free from all pain.

Case VII.—Mrs. B——, aged 28. Married four years, never pregnant, suffered intense pain at her monthly periods, the pain lasting about two weeks. There was great tenderness in the ovarian region, especially on the left side.

This patient has been a sufferer more or less since her 16th year, but she seemed to grow worse from year to year. All methods of treat-

ment had been resorted to. The last was a dilation of the cervical canal, and the insertion of a glass stem. As she was not benefited by any treatment, she was sent to the writer for an abdominal section, April 4, 1904.

The ovaries were found very tense and cystic. The coverings of the ovaries were removed, the utero-ovarian ligaments shortened, and the abdominal incision closed. The patient has had her monthly periods regularly since the operation, and with but very little discomfort. Her general health has greatly improved.

FEEDING OF TYPHOID PATIENTS*

By John Sutherland, M. D.

PIERPONT, S. D.

Some time in the years to come the physician, after having diagnosed a case as typhoid will produce from his satchel a syringe, which he will load with a serum, and, as the relatives stand open-mouthed around the bed, he will inject the serum into the patient, who will immediately start upon the road to recovery.

Of course this is a prophecy, but it is based upon substantial grounds, because the serum treatment of typhoid can already be dimly discerned through the fog of the future. Until the time arrives when we can treat typhoid as we now treat diphtheria, hydrophobia, or tetanus, we shall probably be compelled to continue as we do at present; that is, to put the patient to bed, and wait until he gets well, endeavoring in the meanwhile to avoid doing anything that will make him worse, and changing his environment so that it will correspond with what, in the light of our knowledge, we regard as the most favorable condition for recovery. We now put the patient to bed to save his muscular strength. We give him cold baths to reduce the fever, and if he is noisy we give him opium to keep him quiet. We also feed him generously in spite of his protests, because we know that patients often look after recovery as if they had been starved, and while we admit that we know nothing about the processes of assimilation or nutrition in typhoid, still it is the custom to feed them, and so we feed them, being careful not to give them anything that is solid or tough when it leaves our hands; whatever consistency it assumes after the patient has swallowed it makes no difference, our responsibility ending when we have delivered it to him.

One of the soundest principles in medicine is to secure rest for an inflamed part if we wish to have it recover. This principle, applied to typhoid, would mean that we should secure rest for the intestine; and rest for the intestine means absence of peristaltic movement and non-distention of the bowel by gas. Of course both of these conditions are present in typhoid, but if we add to them, instead of reducing them, we are not benefiting our patient, sufficient bowel movement for drainage being all that we desire.

For the purpose of this paper I shall leave out the phenomena of typhoid other than those relating to the intestines, and proceed at once to question the value of milk as a food, and to inquire into its alleged highly nutritive properties.

Milk, through custom and because it is diametrically opposite to alcohol, has acquired a sort of sanctity, which is supposed to allow it to pass without question when it is suggested for any purpose connected with the sick-room. Is it not nature's pabulum? Is it not highly nutritious? Is it not a liquid food? Does it not fulfill all of the indications, and supply every nutritive element necessary?

Let us examine more closely some of the unsupported claims for milk as a food, implied in an affirmative answer to these questions.

It is a scientific fact that the milk of the mother at the time of the birth of the offspring differs entirely in chemical composition and nutritive qualities from her milk at the time that the offspring is ready to be weaned, or until the advent of the teeth. A consideration of this fact alone cannot fail to convince us that nature does not intend milk to be food for the adult. The failure of milk to meet all the requirements of a food for the developing young is a fact very well understood by specialists in children's diseases.

*Read before the Aberdeen District Medical Society, of South Dakota, November 22, 1904.

The second claim, that it is highly nutritious, has been contradicted by the classical experiments of Ewald. This careful observer had a number of people placed in cells, and fed them on nothing but milk. After ten days' confinement these people emerged in a most wretched state of emaciation, the loss of weight being something remarkable. Ewald concluded from this that the adult stomach is not large enough to hold sufficient milk to keep up the nutrition of the adult individual; in fact, he concluded that the nutritive properties of milk as a food for the adult are greatly overestimated, being in reality insignificant. He concluded, moreover, that milk is not a liquid food, being only liquid until it reaches the stomach, where it is promptly changed, especially in febrile conditions, into a tough peristalsis-provoking substance, which makes an excellent medium for microbes, and will produce much gas when conditions are favorable; in other words, it is capable of fulfilling all of the indications that we don't want fulfilled in typhoid, namely, increased peristalsis and increased distention of the intestine with gas, yielding only a small amount, if any at all, of nourishment as a compensation.

Most of the medical journal writers on the subject of typhoid suggest some system of stuffing, claiming that the patients, when they recover from the stuffing which the writers advocate, look less emaciated, have more resistance, etc. But these gentlemen must surely have the usual mortality of typhoid, and if so they must also have patients who have barely escaped with their lives. It stands to reason, then, that they must have patients in every degree of emaciation, and that their judgment must be colored slightly by their desire to see good results follow the particular method of stuffing of which they are the votaries. An explanation of the process of normal nutrition is one of the hardest questions that science has been called upon to answer. If this is so, what can we say of assimilation and the nutrition of tissue under abnormal conditions? In fact, it is a question whether nutrition of tissue can take place at all in the presence of the microbes and ptomaines of disease like typhoid. This question belongs in the domain of physiological chemistry, a young but expanding science.

We have now arrived at the point where we ask ourselves what, then, shall we feed our typhoids if milk and other cherished foods are found to be disappointing? On reading the text-books we find that almost every edible that ever existed has been offered to the typhoid without arousing him from his indifference to, and often disgust for, food. Might it not be worth while to take a hint from nature when she removes the appetite from our patient? Is it not possible that we magnify the importance of feeding when we pour what we call nourishment down the throats of our semiconscious patients, often exposing them to the dangers of inhalation pneumonias, etc.? May it not be that the benefit derived from alleged liquid nutriments, such as milk, is due more to the watery component than to the theoretical nutritive element? The watery part of the foods may compensate in some degree for the water loss in the patient, this water loss having a good deal to do with the emaciation. However, this water loss would appear to be more rationally compensated for by drinking of an abundance of water. If we could be sure that we were not reinforcing the enemy in the battle going on between the natural resources of the patient and the disease, we should have decided on a suitable diet for typhoids long ago. Do not the conditions in typhoid resemble closely enough the conditions in acute appendicitis, so that some modification of the treatment recommended by Ochsner for appendicitis would be appropriate for typhoid, especially when the disease is at its height? Not exactly to starve the patient, but only to give him food when he had an appetite for it. The physician often places more value than it is worth on the text-book logic which says that a patient who is going to be sick a long time with a wasting disease should have a large amount of food put into the alimentary canal to keep up his strength.

The practitioner should never follow the hospital practice of giving every typhoid patient a glass of milk every four hours, nor should he endeavor to apply any rigorous rule whereby every typhoid is given the same kind of food at stated intervals, because, as in other diseases so in this, every case is a law unto itself. If milk is given because it is relished by the patient or be-

cause it is the most easily procurable article, it should not be given under the impression that the patient is receiving either a highly nutritious or a liquid food.

Alcohol rubbing is highly to be recommended in private practice, and is doubtless of nutritive value, absorption taking place through the skin instead of through the stomach. An abundance of water should be drunk to make up for the water loss and for its antifebrile effects.

To sum up: We are obliged to confess that as we do not understand the processes of nutrition in diseases like typhoid, we shall have to be content to trust to the natural resources of the patient to accomplish his recovery until such time as science is able to lead us out of the darkness.

A SNAP DIAGNOSIS*

By George E. Putney, M. D.

NEW PAYNESVILLE, MINN.

"Doctor, I got syphilis five years ago and have suffered more or less from it since. The old aches and pains became unusually severe about eight weeks ago. I then got constipated. I had cork-screw pains in my stomach and bowels, poor appetite, headache night and day, and gradually developing weakness. I have been rubbing 'anguintum' into my skin on my own responsibility, but I am getting worse, and I want you to fix me up."

"Auto-intoxication and, perhaps, too much mercury," said I to myself, wisely. "I'll unload his bowels, then I shall start him on a course of antisyphilitic treatment."

"Take the medicine this prescription calls for, strictly according to directions. Take no other medicine, and return to me in three days."

Three days later the man dragged himself into my office, whispering, "I am worse than ever, Doctor."

I eyed the patient awhile, saying to myself, "Here is an urgent case of syphilis; I had better record it."

History.—Male, single, aged 44, born in Ireland. Acclimated. House-carpenter. Non-alcoholic. When well, bowels regular. Drinks tea and coffee moderately. Smokes and chews moderately. Sleeps well. Bathes seldom. Hygienic surroundings bad. Had worked out of doors for three months preceding present illness.

Family History.—Excellent.

History of Previous Diseases.—Smallpox in youth. Five years ago, syphilis. One year later, a fever and liver complaint. Gonorrhea five times during the past ten years; the last attack, one year ago. Perfect recovery. No injuries.

History of the Present Disease.—Eight weeks ago, after sleeping two nights in a close, freshly painted room, he began to have a "coppery taste." Lost appetite. Bowels got obstinately constipated. Deep, boring, frontal, constant headache. All kinds of pains in the epigastrium and bowels, soon extending over all the body. The abdominal pains mostly colicky, referred to navel and epigastrium. In a few days muscles of forearm got "trembly and thin; then they got numb and almost useless." Body and legs also got weak and emaciated. Couldn't lift hands. Then came a few days of mild delirium, succeeded by impaired memory. Food sometimes relieves pain in stomach. Some nausea and vomiting before and after meals, from the first day of illness. Stream of urine tardy and twisted. No stricture. Is very weak. Thinks pains now less urgent. The medicine prescribed produced mild catharsis.

Objective Symptoms.—Medium size. Bald. On back, legs extended. Body and limbs emaciated. Face pinched, anxious. Skin of face and body sallow-gray and moist. Eyes dull; sclerotica muddy; pupils respond to light. Temperature 98.8°. Pulse 120. Respiration 7, steady. Tremors of arms, aggravated by movement. Extensors of forearms totally paralyzed. Breath fetid. Tongue pasty. Pharynx normal. Teeth filthy. Gums red and bleeding. No blue line. Deglutition normal. Thorax negative. Abdomen flat. Gradual pressure of hand on episgastrium and

*Read before the Crow River Valley Medical Society at Minneapolis, December 14, 1904.

abdomen relieves pain; but pressure of finger in same regions aggravates pain. After resting, patient recovers voice. Answers questions intelligently, though tardily. Tendon reflexes normal. Special senses not remarkable. Sensations of skin normal.

In Brief.—From the foregoing mass of data I deduce the following: Exposure to the action of the most poisonous preparation of lead, followed immediately by enteralgia, boring, constant, frontal headache, rapid emaciation, tremors of arms, wrist-drop and head symptoms; and conclude that this patient has *plumbism*.

Verification.—After a few days of treatment with potassium iodide and aromatic surphuric acid a pint of the patient's urine yielded nearly one-half grain of metallic lead.

Remarks.—If I had adopted the working hypothesis so frankly handed to me by the patient, I should have given him potassium iodide, cured his plumbism, and, perhaps, later, made a spurious contribution to the annals of medicine.

A REVIEW OF 1000 OPERATIONS FOR GALL-STONE DISEASE WITH ESPECIAL REFERENCE TO THE MORTALITY*

By Drs. Wm. J. and Charles H. Mayo

Surgeons to St. Mary's Hospital

ROCHESTER

In 1000 operations for gall-stone disease there were 50 deaths (5 per cent), counting as a death every patient operated upon who died in the hospital without regard to the cause of death or the length of time after the operation. There were 950 operations for benign disease, with 4.2 per cent mortality. Where there was more than one procedure through a single incision, only the major was counted; therefore 101 cholecystostomies and 44 cholecystectomies in connection with common-duct operations are not included. There were 673 cholecystostomies, with a mortality of 2.4 per cent. This group includes most of the acute infections. In no case did stones reform in the gall-bladder. This is the operation of choice in the average uncomplicated case, and especially if there is or has been cholangitis.

Cholecystectomy—186 cases with a mortality of 4.3 per cent—was employed for special indications, such as cystic duct obstruction, thick-walled gall-bladders raising suspicion of malignant disease, and cholecystitis without calculi. In 137 operations for stone in the common duct the mortality was 11 per cent, 7 per cent from operation and 4 per cent from secondary complications after more than three weeks. Of the cases operated upon during the quiescent period with little jaundice and slight infection, all recovered. Of the four cases with extreme icterus from obstruction, who had subcutaneous hemorrhages at the time of the operation (purpura), all died, as did the four cases of complete biliary obstruction in which the common and hepatic ducts were filled with clear cystic fluid and no bile. Including malignant disease, 14.6 per cent of the total were upon the common duct. Of the 40 cases of malignant disease, with 22.5 per cent mortality, two cases with cancer of the gall-bladder are now alive and well, more than two years after operation, as are two additional favorable cases of more recent date. Of the remaining malignant cases a few received marked palliation, but the majority were benefited only a little.

*Author's abstract of a paper read before the Southern Surgical and Gynecological Association at Birmingham, Alabama, December 15, 1904.

THE HOSPITAL BULLETIN

ST. BARNABAS HOSPITAL

MINNEAPOLIS

A CASE OF SEPTICEMIA IN WHICH ANTISTREPTOCOCCUS SERUM WAS EMPLOYED

IN THE SERVICE OF DR. J. W. MACDONALD

Mr. F——, a farmer 51 years old entered the hospital November 24th. Three weeks before he had scratched his little finger slightly on a galvanized barbed-wire fence which was old and rusty. The scratch pained somewhat, but it did not bleed and he gave it no further attention until the morning of November 20th when pain started in his thumb which had begun to swell. The pain grew intense and the next day an incision was made at the seat of pain. No pus appeared, and the pain continued and was so intense that it was only by the use of morphine that he could rest at all. The whole hand now became swollen. The swelling extended to the arm, and on the 24th he was brought to the hospital and the hand freely opened, but only a little serum escaped..

The patient appeared anxious and was evidently suffering intensely. His temperature was then 102.8°, and it continued to rise until the antistreptococcus serum was injected with the result as shown in chart No. 1. Two other injections were made, one of 60 c. c., the other of 30 c.c. and the effect was always immediate.

The temperature has gradually descended to normal following the usual septic curve, and on Dec. 21st, he was discharged from the hospital, although he is still under my care.

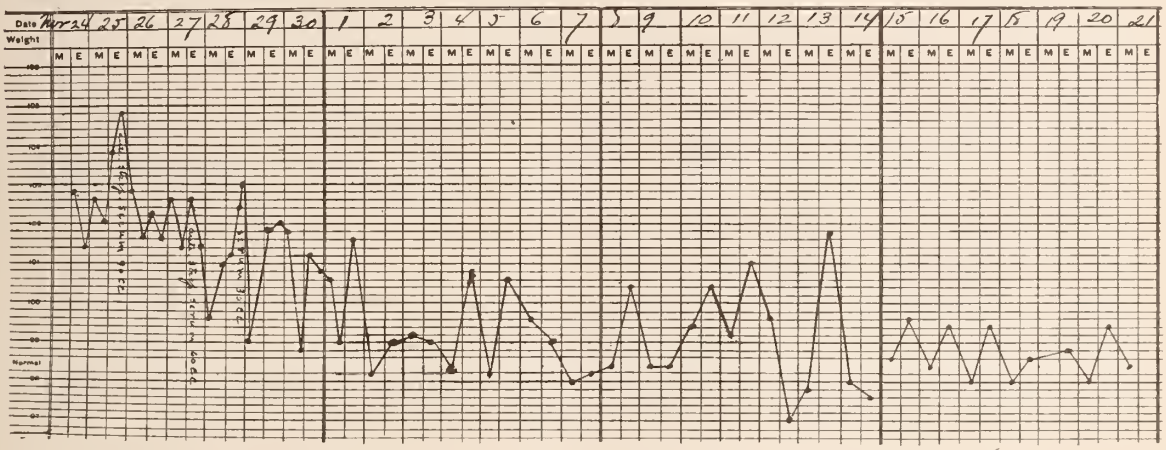


Chart No. 1.

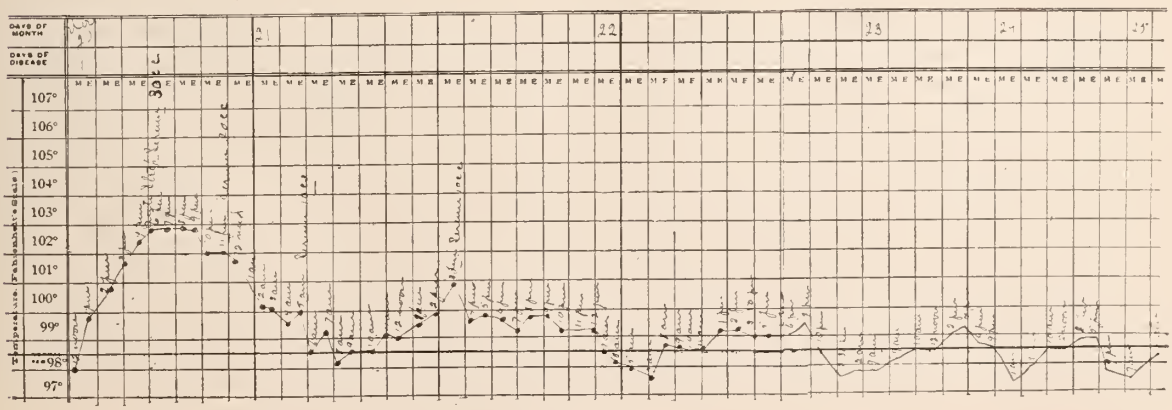


Chart No. 2.

Chart No. 2, which is of a case occuring two years ago, shows even more graphically the effect of the serum. The curve covers only three days in which 70 c.c. of the serum was used. As the temperature was here taken every hour, it can be seen that the effect of the serum occurred immediately after the injection.

In these cases there is nothing noteworthy in the pulse records. They follow the temperature almost uniformly.

AN OBSTINATE CASE OF URETHRITIS

In the Service of Dr. Franklin R. Wright

Mr. A—— began treatment for urethral irritation last April. He had never had a noticeable discharge, but the urine was very cloudy. He was treated for five months by a practicing physician who claims to have had frequent examinations for gonococci made by a competent bacteriologist, always with negative results. At the end of five weeks the patient was discharged as cured, and he presented himself to another physician in precisely his original condition. This second physician treated him long enough to realize the obstinate nature of the disease, and brought him to me. He likewise had examined for gonococci with no result. Smears were again made, but no organisms were found. The urine was then brought to the clinical laboratory of St. Barnabas and examined in the following way by the resident pathologist: Two culture-media were prepared as follows: (1) Plates made by adding two parts of melted agar, cooled to 45° C., to one part of sterile fluid removed from an ovarian cyst; (2) Tube slants of Loeffler's blood serum were smeared with the cyst fluid by a platinum loop. Two centrifuge tubes were filled with urine drawn from the bottom of the bottle by means of a pipette, and the specimens centrifuged for three hours. The urine was then drawn from the tubes, and some of the sediment placed in small spots here and there by a platinum loop on the plate medium. At the end of 24 hours the plate was nearly covered with germ growth, and but one or two suspicious colonies found. These colonies were small, irregular, and somewhat transparent. Smears made from these showed a biscuit-shaped diplococcus, negative to Gram.

Subcultures were made on the slants previously described. Cultures were also made on a slant medium from a proved case of gonorrhea.

Observations made on the known and unknown cultures at 24, 48, 56 hours, showed typical colonies of the gonococcus in both cases. Smears made from these showed the typical diplococcus biscuit - shaped micro - organisms which were negative to Gram. On the second day, however, atypical forms began to appear. Although Koch's third postulate was not attempted a diagnosis of gonococcus was made.

Treatment.—For the first week rest was enjoined. Then instillations of argyrol retained for ten minutes were used, and the urine cleared up entirely. Silver nitrate was next employed, and the urine at once became cloudy again, and persisted so until the silver was discarded. Argyrol as high as 25 per cent was used alternating with the silver. Under the argyrol the urine is clear, but shreds are present, whereas if the silver is used for two or three days without rest the urine clouds immediately.

A few shreds still remain.

A CASE OF STRANGULATED HERNIA IN A THREE MONTHS' OLD INFANT

In the Service of Dr. D. C. Cowles

On December 1st Baby P——, aged three weeks and three days, commenced to vomit and apparently to suffer intense pain.

On examination a mass was found in the left inguinal region, a typical hernia, which could not be reduced. The baby was sent to St. Barnabas Hospital, and Dr. Rochford called in consultation. It was decided to operate at once. The hernial sac contained omentum and intestine. It was reduced with much difficulty, and great trouble was experienced in replacing the intestines owing to the great distension by gas. The operation required almost an hour. The baby recovered satisfactorily from the anesthetic and seemed in excellent condition until at the end of 16 hours, when vomiting commenced. The odor of the vomitus became fecal, and the patient died about 20 hours after operation.

CITY HOSPITAL

HIGH TEMPERATURES DUE TO THE DRAINAGE OF CEREBROSPINAL FLUID IN A CASE OF FRACTURE OF SKULL

IN THE SERVICE OF DR. J. CLARK STEWART

The patient, Cullen B——, aged 42, was kicked by a horse fifteen years ago, fracturing his skull in the right frontoparietal region. No very accurate history can be obtained of his early condition, as his mental state is not good. Seven years ago he was operated upon by some surgeon in Fargo, and depressed bone was removed. He was better for a time, but soon relapsed into his present condition.

Examination shows a fairly well nourished man of medium size with a marked depression in the right frontal region. There is also a partial paralysis of the arm and leg on the left side, most marked in the arm; and he has frequent attacks of Jacksonian epilepsy, affecting the hand and forearm on the left side. His mental condition is peculiar: he seems rational, but his memory, except for a few important facts of his history, is bad.

Operation, November 5, 1904.

A horseshoe flap was made with its base in the forehead, and running up about five inches toward the vertex. This was densely adherent over the seat of fracture, and had to be dissected carefully free. A deep depression was found, of oval shape about one inch in width by one and a quarter inches in length, whose base was filled by a thin plate of bone. A trephine opening was made at the edge of this depression, and the bone found to be over one-half inch thick. The opening was then enlarged by Rongeur gouge and mallet until normal bone was reached, the resulting gap being about four inches vertically by three at the greatest diameter. The removed bone was very much thickened, in some places being three-quarters of an inch thick. Hemorrhage was very profuse, especially toward the middle line where some large vessels communicating with the longitudinal sinuses were incised. After the bone had been removed, it was found that the previous operator had removed an oval piece of the dura mater one inch by three-quarters in size, so that the removed bone plate had been directly in contact with exposed pia mater. A blunt instrument was passed backward between the pia and dura, and found no adhesions. The exposed brain was soft and apparently diseased, but no exploration was made for fear of causing a hernia cerebri. The skin incision was sutured, and the cavity between the skin and brain loosely packed with iodoform gauze, a second piece being used to check the profuse hemorrhage from the bone along the central part of the wound.

Patient reacted well after the operation, although he had lost a great deal of blood. His temperature the next day was 101°; pulse 100, dropping to normal on the 7th and running up again to 102 on the 9th. On November 12th his temperature again began to rise after having been approximately normal for some days, and as the interne had some doubt whether all the packing was removed, the wound was explored, and a piece of iodoform gauze was removed. This was followed by free escape of clear fluid, which, on cultures being made, gave no evidence of infection. The wound was drained with rubber tissue, and sterile dressing put on. The next few days were marked by profuse escape of fluid from the skull, accompanied by temperatures running up to 105°, and marked delirium without much pulse disturbance. On the 17th the temperature reached 105°, and the same on the 18th and 19th. On the 20th the drain was removed, and the wound was allowed to heal, which promptly checked the flow of fluid, and also reduced the temperature, so that by the 23d it was normal, and remained normal and subnormal until his discharge December 14th.

His mental symptoms continued, though it was difficult to judge of the exact mental condition on account of certain queer ways which he developed, but by December 1st he seemed to be approximately normal in every way, his mind was clearer, his paralysis seemed better, though still present, and his Jacksonian epilepsy had entirely disappeared.

CLINICAL MICROSCOPY

Conducted by George Douglas Head, M. D.

GASTRIC CONTENTS ANALYSIS IN ULCER OF THE STOMACH

In the American Jour. of Med. Sciences for December, 1904, Howard, in his study of 82 cases of gastric and duodenal ulcer, gives some valuable figures relating to the gastric findings.

Gastric contents analyses were made in 52 patients.

Of these 27.5 per cent showed hyperacidity; 42.5 per cent subacidity, while 30 per cent had a total acidity between 40 and 60 per cent.

Free HCl was present in 82 per cent, and absent in 18 per cent of the cases.

In 17.6 per cent there was hyperchlorhydria; in 26.4 per cent a normal quantity of HCl, and hypochlorhydria in 26.4 per cent.

As Howard remarks, these figures are rather contrary to the generally accepted statement that hyperchlorhydria is present in 75-80 per cent of the cases of ulcer of the stomach. Lactic acid was tested for in 43 cases. In 6 of these it was present, doubtful in 3 and negative in 34. In the 9 cases where lactic acid was present, dilatation of the stomach existed in 4 cases.

Howard expresses the belief that the presence of lactic acid in these cases of gastric ulcer is due to the stagnation of the gastric contents, and a consequent fermentation.

The Oppler Boas bacillus was found in four cases.

Howard offers some interesting figures bearing upon the question of carcinoma of the stomach engrafted upon ulcer. Of the 83 cases only 4 gave evidence of this transformation. Of these he admits that the first and second cases are doubtful, while the third and fourth are probably true instances of carcinoma engrafted upon ulcer of the stomach. Admitting that all four cases were genuine instances of cancer superimposed on ulcer, only 4.8 per cent of the total number could be so classified.

Such studies as these, reported by Howard, serve to establish the value in diagnosis of stomach contents examinations better than an endless amount of theoretical discussion. Some writers have gone so far as to say that these examinations are useless, and often misleading; others have taken the other extreme, and maintained that every disease of the stomach can be correctly interpreted if only the clinician studies carefully the stomach contents.

These are extreme views, and both are untenable. The clinical picture of many cases of ulcer and cancer of the stomach is perfectly plain, and requires no study of the gastric contents to establish the diagnosis. On the other hand, every obscure case of stomach disease in which any question arises as to the nature of the trouble should be subjected to a thorough examination of the stomach contents. The result of this examination will not, in many cases, establish the diagnosis when taken by itself, but when studied in conjunction with the clinical history of the case and the physical examination, will often clear up the diagnosis in an otherwise doubtful case. We feel sure that many errors in interpreting gastric findings are made because the clinician draws his conclusions from the examination of the stomach contents after only one test-meal. If the patient has never taken a stomach-tube before, he is in a nervous state of apprehension over the prospects of what he imagines is a trying ordeal, and the normal gastric secretion is certainly altered thereby. We have observed this repeatedly in many different patients. At the first examination no free HCl would be found, while in subsequent analyses a normal or even increased amount would be present. This we have found true also for lactic acid.

"OCCULT" BLOOD IN THE STOOLS IN GASTRIC DISEASE

In 1901 Boas, in the Deutsches Med. Wochenschrift, No. 20, published his first investigations upon the presence of small amounts of blood not detectible macroscopically, or microscopically, in the feces, and described a delicate, practical test for clinical use. The technique of the test is as follows: Put the patient on a meat-free diet for five or six days; make the stools soft by giving a mild laxative, such as Carlsbad salts; take

two or three grains of feces, and mix with 20 c. c. of water. Extract with 20 c. c. of ether to remove the fats. This mixture is now extracted with one-third of its volume of acetic acid, and thoroughly shaken. Then add 10 c. c. of ether, and shake again thoroughly. The ether will now rise to the top of the fluid mixture. To 2 c. c. of the ethereal extract add 10 drops of a fresh solution of tinct. of guaiac (resin of guaiac 1; abs. alcohol 25), and add 10-20 drops of an old ozonized oil of turpentine (pure turpentine which has been exposed to the air for 8 weeks). If blood is present an intense blue color will appear in the mixture. The utensils used must be clean and dry, and the ethereal extract must not touch the skin during the handling process. A green or greenish-blue color is not characteristic of the test. Steele (Progressive Medicine, Dec. 1, 1904) gives a splendid résumé of the work done upon this test of Boas, and states that he believes it to be one of the most important additions to clinical diagnosis that has appeared during the past year. He summarizes our present knowledge as follows:

1. Occult blood in the feces or stomach contents is of the same significance as macroscopic hemorrhage, and of the same value in diagnosis.

2. Occult blood is constantly found in cancer of the gastro-intestinal tract.

3. It is present intermittently in ulcer.

4. It is occasionally present in organic and spastic pyloric stenosis.

5. It is absent in acid, anacid, and subacid gastritis, hyperacidity, hypersecretion, and neuroses.

It seems to the writer that only a large number of observations can really determine the value of this test of Boas. If the test is so extremely delicate as its author maintains that it is, even small amounts of blood swallowed from bleeding gums or hemorrhages from the nose, bleeding hemorrhoids, etc., would give the test, and one would always be in doubt when to rely upon the findings.

Then, again, not all cases of carcinoma of the stomach are accompanied by ulceration and hemorrhage. This is true especially of scirrhus, and in this form of carcinoma the reaction would probably sometimes be absent. In benign stenosis of the pylorus and in spastic stagnation of the gastric contents it has been shown that the test may be present.

Until a larger series of cases, including all forms of gastric disease, shall have been studied, its helpfulness in the diagnosis of disorders of the stomach must be accepted with some reserve.

SURGICAL REFLECTIONS ON THE DIAGNOSIS OF CANCER OF THE STOMACH

A. G. Gerster appeals to general practitioners to take earlier action in cases in which the suspicion of gastric carcinoma seems justified. While it is true that the technique of the excision of gastric cancer has been developed to such a degree that the mortality in the hands of some operators, such as Mayo, has been reduced to about eighteen per cent, in the direction of early diagnosis much less progress has been made. We are furthermore confronted by the dilemma that if we wait until the diagnosis is reasonably certain, especially if we delay till a palpable tumor exists, it is too late to expect cure from operation. A reliable diagnosis of cancer of the stomach in the incipient stage, in which it is susceptible of successful operative treatment, is with our present knowledge a sheer impossibility, and therefore in the case in question we must make up our minds to submit the patient to the risk of an operation before the diagnosis is firmly established. The author concludes that when in a clearly progressive case of an intractable disorder of the stomach the local and general symptoms, conscientiously collected and weighed, strongly justify the suspicion of cancer, diagnostic laparotomy should be considered not only admissible, but obligatory.—Medical Record, October 29, 1904.

A SERIES OF FOREIGN BODIES IN THE VERMIFORM APPENDIX MET WITH IN 1,600 NECROPSIES

L. J. Mitchell gives a list of true foreign bodies found in the appendix during his service as coroner's physician. One or more grape seeds were present in eight cases, one or more shot in three cases, and fragments of bone in two cases. Other objects were a portion of a shingle nail, a globule of solder, a piece of nutshell, a portion of the vertebral column of a small fish, and fragments, apparently, of ash or stone. None of the appendices containing these bodies showed any signs of inflammation either past or present.—Medical Record, December 10, 1904.

NORTHWESTERN LANCET

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EPILEPTICS WITH EYE-STRAIN

Dr. Ambrose L. Ranney publishes anew, in the New York and Philadelphia Medical Journal, his observations and cure of epilepsy by relieving eye-strain.

This subject has excited spasmodic discussion for years, and has been the center of controversy between a few optimistic oculists and a few pessimistic neurologists.

Some years ago when Dr. Stevens, of New York, proclaimed the cure of epilepsy by glasses and tenotomies a committee of physicians of the New York Medical Society selected twenty epileptics for treatment. For some reason the experiment was not a success, and the methods of Stevens were condemned as visionary. Later, Dr. Ranney became an ardent advocate of the method, and his reports have appeared from time to time, but have not excited the comment that accompanied the Stevens controversy. Dr. Ranney has spent many years in attempting to cure epilepsy, and his report of six cures by the use of glasses and graduated tenotomies has been published so often that there seems to be no reason to doubt the accuracy of his statements. The present article impresses the fact upon the reader that cures are accomplished only by the most skillful treatment and leads one to infer that there is but one person who is sufficiently skilled for this purpose. That eye-strain, even of moderate degree, is often accompanied by a variety of nervous symptoms no rational being will deny; and that occasional convulsions may be caused by eye-strain cannot be disputed. The writer, however, makes a sweeping statement and shows his mental error where he claims that private sanitariums yield large revenues from patients who are suffering from eye conditions that have never been intelligently or carefully investigated.

He practically accuses the medical profession, and oculists in particular, of gross incompetency.

Dr. Ranney says it is usually advisable to fully correct the refraction of epileptic patients by properly prescribed glasses, and after a time to correct the maladjustment of ocular muscles by graduated tenotomies. All of this has been threshed over again and again, and skillful men have labored to cure nervous errors by correcting eye errors, but few have the success that has fallen to Dr. Ranney. If a very small percentage of the cases of epilepsy can be cured by the methods suggested, why do we hear of so few successful cases? Is it because other oculists are not keen enough to detect minor errors of refraction, or is it due to the fact that epileptics occasionally have remissions lasting from one to twenty years? Are those true cases of epilepsy, or are they epileptiform attacks due to reflex disturbances? Every physician who treats epilepsy has an occasional case that has apparently recovered, and it is fair to assume the recovery is not often due to treatment directed to the eyes.

There may be more to Dr. Ranney's theory than we care to admit, yet his article is not convincing or conclusive, nor does it establish a working hypothesis upon which to base a definite conclusion.

POLITICS, MEDICAL AND OTHER FORMS

With the new year comes the new governor, housed in a new capital building, and new appointments to be considered. Let us hope the appointments may be as worthy as those already made.

The Board of Medical Examiners is to be rounded out with two new men, and His Excellency, John A. Johnson, will doubtless make a

good selection. The board is usually made up of good men, for only good men are willing to give their time and attention to such a thankless task as that of medical examiners. The duties of the board consist largely of examining applicants for licenses to practice medicine in Minnesota. Incidentally the board is to protect the licensed physician from sharks and sharpers who are not sufficiently qualified and who deserve to be driven out of the state. The board, however, should not be too sharply criticised for seeming inactivity. The general opinion of the public is against the enforcement of laws that are supposed to protect them as well as the qualified physician. In the first place, the physician is largely to blame for the attitude of the people. The practice of medicine is frequently unstable, and the people do not understand the relationship of doctor and patient. If the physician cannot cure disease he is blamed for his ignorance, but if the quack, by his methods, brings about a cure of a nervous trouble or of a diseased imagination, he is praised for his knowledge, and any attempt to prevent him from carrying on his trade by medical laws is frowned down by juries and prosecutors. In the second place, many physicians hesitate or refuse to furnish proofs of disqualification in the ignorant or quack physician for fear of notoriety or ridicule, hence the county attorney cannot conduct a convincing case. Evidence must fit the laws, and if it is lacking in any particular the case falls flat, and all concerned are discouraged.

Recently medical legislation has recognized a variety of schools of practice, and the governor will have to fill vacancies in a variety of boards, some of which are twin brothers to the quacks.

The secretary of the Board of Medical Examiners has honestly endeavored to bring about the prosecution of flagrant quacks in the cities, but his efforts have been handicapped by the difficulties which surround the securing of evidence. Not many patients who have been duped by quack methods are willing to publicly announce their foolishness. They would rather suffer the loss of money and gain wisdom by their experience. If the large county societies and influence of the state organization would assist the examining board and the state's attorney, the state could be practically cleared of medical fungi.

The same difficulties surround the legislative committees of the state society. The average legislator is fearful of restricting the liberty of the irregular, but does not hesitate to throw away the protection of the regular practitioner. The campaign, if instituted, must be one of education. No radical measures can be enforced by abuse or tirades. The representative must be led by gentle means to see the force of honest medical legislation. Too much lobbying is bad for the medical profession. A proper dose given at the critical moment will move the spirit to a proper consideration of the needs of the public, as well as the needs of medical men.

MEDICAL WIT IN THE DAILY PRESS

That the daily press is a fruitful source of medical wit, if not therapeutic wisdom, is shown by three Minnesota papers of current date. The New Ulm Journal contains an account of a farewell banquet to Dr. E. J. Davis, of Mankato, on his departure for his new position at the Soldiers' Home. Dr. Strickler is made, by the absence of a dash, to end his toast, "Our Guest—An Example of Medical Ethics," with this bit of timely poesy:

From indigestion, aches and pains,
Your system will be free,
If you'll but take a timely drink
Of Rocky Mountain Tea.

No doubt Dr. Strickler's comment on this report would furnish dashes enough.

The Crookston Times gives an account of a damage case against a physician who was sued for setting a man's broken arm in an improper manner. As usual, a brief account of the case is prefaced with scare head-lines. One of them runs thus:

HIS ARM NIT CROOKED

The jury gave a "nit" verdict.

And here is another from the St. Paul News, which is a little bit harder on life insurance than on medicine:

Chicago doctors, it is alleged, pay commissions to people who send patients to them. Well, why not? Medicine is only a form of life insurance, and the life insurance business is all commission.

SCIENTIFIC HYPNOTISM

Every intelligent man must feel that there is something of scientific truth in hypnotism, yet one can hardly mention the hypnotist without thinking of the fakir, and with good reason, because the line between the two has never been drawn distinctly enough to clearly distinguish the two.

We are glad to record the fact that this has been changed, not because we have faith in or exact knowledge of hypnotism, but because this so-called occult art or science is about to come to the judgment seat of pure science, and, it may be, some other occult things will come along with it.

Prof. Hyslop of Columbia and Prof. James of Harvard are two of the big-brained men of this country, and their plan to establish a hypnotic hospital in New York City under the direction of the American Institute of Scientific Research, cannot but be of interest to every medical man. We sincerely hope the funds for the work will soon be forthcoming to carry on so admirable a work of scientific research.

REPORTS OF SOCIETIES

Hennepin County Medical Society

F. A. Knights, M. D., Secretary

A stated meeting of the Hennepin County Medical Society was held on December 6, about eighty members being present. Dr. C. H. Hunter, the president, after taking the chair, resigned it to Dr. W. E. Rochford, vice-president, who occupied it during the meeting.

The Executive Committee, reported by Dr. J. W. Bell, chairman, recommending promptness in opening meetings and briefness and conciseness in speaking, and in reading papers. The following applied for membership: Dr. P. M. Holl, 303 Central Ave., Bellvue, '88; Dr. Geo. A. Kohler, Pillsbury Bldg., Hamline, 1900; Dr. W. A. Norred, Century Bldg., University of Minnesota, 1902; Dr. H. C. Arey, Excelsior. The Censors reported favorably upon the applications of Dr. Addie R. Haverfield and Dr. A. T. Caine, and on ballot they were declared elected.

The matter of the proposed amendment to the constitution of the State Medical Association regarding lodge and contract practice being taken up, the society voted, on motion of Dr. R. J. Hill, to instruct its delegates to support the amendment. Dr. H. A. Cohen moved a reconsideration, and the motion to reconsider was lost by a rising vote of eleven for and fifteen against.

The nomination of officers being in order, Dr. D. O. Thomas was nominated for president, and nominations declared closed by motion. Dr. A. B. Cates was nominated for vice-president, and Dr. S. M. White for librarian.

The following were nominated for the Executive Committee: Drs. C. H. Bradley, J. W. Bell, R. E. Farr, W. H. Condit, J. Clark Stewart, and G. G. Eitel. Dr. L. A. Nippert declined nomination The following were nominated for Censors: Drs. R. J. Hill, W. B. Pineo, J. C. Litzenberg, G. D. Head, C. J. Ringnell, and J. D. Simpson.

The present board of trustees was re-nominated; as were also the present delegates to the State Medical Association.

Dr. G. Schwyzer read a paper entitled "The Indications for the Goitre Operation, and its Technique, with Reference to Thirty-seven Operated Cases." This paper was discussed by Drs. Rochford, Dunsmoor, Little, H. W. Jones, Nippert, and Benjamin, and the discussion was closed by Dr. Schwyzer.

Dr. J. E. Moore's paper on "Fractures of the Neck of the Femur" was postponed to the February meeting.

MINNESOTA ACADEMY OF MEDICINE

Arthur W. Dunning, M. D., Secretary

The regular meeting of the Academy of Medicine was held at the West Hotel in Minneapolis on Wednesday evening, Dec. 7th, 1904. In the absence of both the president and the vice-president, the secretary called the meeting to order, and Dr. Thos. McDavitt was elected chairman pro tem. There were 35 members present.

On motion of Dr. R. J. Hill it was determined to consider at the next meeting an amendment to the constitution relative to the requirements for attendance. Due notice will be given.

Dr. Haldor Snévé reported a case of hydro-

cephalus in a boy treated by operative measures.

Dr. J. C. Stewart reported a case of hypernephroma in a woman 61 years old.

Dr. Arnold Schwyzer, of St. Paul, read a paper upon "Total Excision of Bladder for Carcimona." The subject was discussed by Drs. J. W. Little, L. C. Bacon, J. C. Stewart, S. Marx White, A. T. Mann, J. E. Moore, A. E. Benjamin, and by Dr. Schwyzer in closing.

Dr. A. C. Heath, of St. Paul, then read his inaugural thesis, "Nasal Deformities, Paraffin Prothesis." The subject was discussed by Dr. F. C. Todd, Dr. A. T. Mann, and by Dr. Heath in closing.

NEWS ITEMS

Dr. S. P. Seaberg has located at Taylor, N. D.

Dr. R. H. Townsley has located at Wagner, S. D.

Drs. Asbury and Lincoln, of Wabasha, have dissolved partnership.

Drs. Hyde and Greene, of Brookings, S. D., have dissolved partnership.

Dr. Sterling H. Olsen, formerly of West Duluth, is now located at Milaca.

Dr. F. W. Davis, State University, '03, has moved from Adams to Kasson.

Dr. D. C. Brooke has been reappointed county physician at Helena, Mont., at a salary of $1,750.

Dr. J. R. Elsey, of Chokio, has moved to Glenwood, where he resided before studying medicine.

Dr. T. H. Hanbridge, of Victor, Montana, will spend the winter in New York doing post-graduate work.

Dr. J. W. Bell, of Minneapolis, has gone to Europe with his family, and will spend the winter in travel.

Dr. Lea Prouty, a recent graduate of Rush, has located at Bryant, S. D., and formed a partnership with Dr. R. O. Broadway.

Dr. A. J. Stowe, of Rush City, has located in Minneapolis, and formed a partnership with Dr. C. A. Kelsey, 2300 Central Ave.

The Minot (N. D.) Hospital Association has been incorporated, and the association proposes to expend $40,000 in new buildings.

The Red River Valley Medical Association and the Red River Valley Dental Association will hold a joint meeting at Crookston this month.

Dr. C. E. Burleson, of Chicago, has been chosen to fill the vacancy upon the St. Peter State Hospital staff made by the resignation of Dr. Nicholson.

Dr. Robert Stephenson has located at Ellendale, N. D., and formed a partnership with his brother, Dr. J. L. Stephenson, who is a graduate of the State University.

Dr. G. E. Benson, of Minneapolis, started for Europe last week to spend six months in study of the eye, ear, nose, and throat. Most of his time will be spent in Vienna.

Dr. A. Torland, who graduated from Hamline in 1903, has moved from Audubon to Osakis. Dr. Torland recently returned from Europe, where he went for special study.

Dr. Olaf Sand is at the head of a movement to establish a hospital at Pelican Rapids. The citizens promise to raise the money, and a committee is at work maturing plans.

The citizens of Albert Lea are very much in earnest in their efforts to obtain support and funds for a general city hospital. The churches, the fraternal organizations, and the Commercial Club are working together.

Dr. F. S. Taylor, an army surgeon stationed at Fort Columbia, Wash., died last month on a Northern Pacific train near Fargo while on his way to enter the government hospital at Washington, D. C.

At the annual meeting of the St. Louis County Medical Society, held last month, the following were elected officers: President, Dr. J. J. Eklund, of Duluth; vice-president, Dr. M. K. Knauff, of Two Harbors; secretary-treasurer, Dr. Clarence Taylor, of Duluth.

The Fourth District Medical Association of South Dakota met at Huron on Dec. 16, and elected the following officers for 1905: President, Dr. C. B. Alford, Huron; vice-president, Dr. J. L. Robinson, Pierre; secretary, Dr. E. B. Taylor; treasurer, Dr. J. L. Foxton, Huron

The Commercial Club, of Albert Lea, is at the head of the movement, in that city, to establish a hospital that shall meet the needs of the city and county. They recite, in their circular letter to the public, that private efforts to maintain a hospital have failed, and they set forth the needs for public aid.

Dr. C. L. Chambers, of Kasson, died last month, as the result of an accident, having been thrown out of his buggy. Dr. Chalmers graduated from Rush in 1883, and practiced in Canby until 1891, when he located at Kasson. The schools and business houses of Kasson were closed in his honor on the day of his funeral.

The physicians of Eddy, Foster, and Wells counties, N. D., met at Fessenden, N. D., last month, and organized the Tri-County Medical Society with the following officers: President, Dr. Chas. McLachlan, New Rockford; vice-president, Dr. John Johns, Bowdon; secretary and treasurer, Dr. Murdock MacGregor, Fessenden.

The St. Louis County (Duluth) physicians have rebelled at the practice of the probate court of that county in employing osteopathic and like practitioners in the examination of insane patients. Why not take this judge over to West Superior about April 1st, and bring him before a board of osteopaths and chiropractics for examination?

Dr. Harlow L. McLeod, a graduate of the College of Physicians and Surgeons of New York, has bought the Hudson Sanatorium, and will change its name to the Hudson Hospital. All physicians will be glad to know that the handsome and well-equipped building, which is in a location of unusual natural beauty, is to lie idle no longer.

Dr. R. K. Paine, a homeopathic physician, who formerly practiced at Mankato, died last month at Manitowoc, Wis. The honors paid to his memory by the citizens recalled the old-time love and veneration which were a part of the physician's compensation for sacrifices few physicians are now called upon to make in their daily practice. All honor to the pioneers of medicine in the Northwest.

The Scott-Carver Country Medical Society held its annual meeting at Jordan on Dec. 1st. The retiring president, Dr. John Landenberger, of New Prague, paid, in his address, a handsome tribute to the late Dr. James H. Dunn. The following were elected officers for 1905:

President, Dr. W. H. Phillips, Jordan; vice-president, Dr. G. R. Maloney, Belle Plaine; secretary and treasurer, Dr. H. W. Reiter, Shakopee.

About fifty physicians attended the annual meeting of the Minnesota Valley Medical Society at Mankato last month. This would be a creditable attendance for many state associations. The following were elected officers for 1905: President, Dr. C. J. Spratt, Minneapolis; first vice-president, Dr. W. H. McIntyre, St. Peter; second vice-president, Dr. G. R. Curran, Mankato; secretary, Dr. E. D. Steel, Mankato; treasurer, Dr. G. F. Merritt, St. Peter.

The Mitchell District Medical Society met last month in annual session at Mitchell, S. D. Dr. E. F. Reamer, formerly of Minneapolis, read a paper on "Bills Payable and Bills Receivable," the discussion of which resulted in the appointment of a committee on uniform fees, to report at the next quarterly meeting. The following were elected officers for the current year: President, Dr. Frederick Treon, of Chamberlain; vice-president, Dr. W. R. Ball, of Mitchell; secretary, Dr. E. F. Reamer, of Mitchell; treasurer, Dr. F. W. Freyberg, of Mitchell.

A newspaper in the northern part of this state has a chapter on "frenzied finance" in medical circles, with the usual accompaniment of threats to kill, etc. The charge is made by the newspaper that a physician refused to go eight miles into the country unless his fee and the cost of a livery conveyance was advanced. The physician denies that he demanded the fee, but admits that he would not hire a horse and buggy at his own expense. Many a country physician who does not keep his own horse has the question to meet. The physician denies that he knew the serious character of the illness he was asked to treat.

The Crow River Valley Medical Society met at the Commercial Club, Minneapolis, December 14. The Society was entertained by its Minneapolis members. A banquet was held at 7 o'clock preceding the scientific programme. About thirty physicians were present. The programme was as follows: "Hereditary and Maternal Influences as Factors in Health and Diseases," by Christian Johnson, M. D., of Willmar; "Prognosis of Valvular Lesions of the Heart," L. A. Nippert, M. D., Minneapolis; "A Snap Diagnosis" by Geo. E. Putney, M. D., of New Paynesville; "How to Prevent Tuberculosis," by Jas. W. Robertson, M. D., of Litchfield. J. E. Moore, M. D., reported three interesting cases of appendicitis. A. E. Benjamin, M. D., reported two cases of appendicitis with unusual symptoms. These papers were freely discussed by the members present. There was a great deal of interest shown in the scientific, as well as in the preliminary, part of the evening's entertainment; so much, indeed, that some of the "great" men of the Society barely got into the last elevator going down.

POST-GRADUATE WORK

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NORTHWESTERN LANCET

A Semimonthly Medical Journal

VOL. XXV JANUARY 15, 1905 No. 2

HEREDITARY AND MATERNAL INFLUENCES AS FACTORS IN HEALTH AND DISEASE*

By Christian Johnson, M. D.

WILLMAR

As we expect to have a hearty feast of intellectual pabulum at this Minneapolis meeting of the Crow River Medical Association, and expect our city confreres to furnish the heavy stuff, I thought I might furnish the salt and the pepper. Such articles as salt and pepper are not foodstuff correctly speaking, but simply serve to tickle the palate and gently stimulate the stomach for the digestion of the heavier articles on the bill of fare.

My subject is not, strictly speaking, exclusively medical, but one of those broad and many-sided themes that touch on all the relations of life, philosophical, legal, theological, as well as medical. However, philosophy is theoretical, chiefly, and contents itself with spinning its fine and intricate webs in the closet. Law is bound down by precedent and statutes, and can only adopt the conclusions of science through a long and laborious process of digestion. Theology is riveted in the mask of steel to the mysteries of the past. Medicine, to be sure, is also conservative, but the essential law of her being is the duty to relieve the sufferings of humanity irrespective of philosophic theories, legal enactments or religious beliefs.

Medicine also is the practical science par excellence. Its votaries deal directly with humanity. While the philosopher theorizes, the lawyer quotes precedents, and the minister preaches to his congregation, the physician is directly confronted with disease and suffering that he must relieve or give place to the next best man who will, and can.

*Read before the Crow River Valley Medical Society at Minneapolis, December 14, 1904.

Hence the race problem is an active reality to the physician. Preventive medicine has become the problem of the day. During the last half of the last century the mystery of the old materies morbi has been solved, or almost solved, and we know now that disease is simply the struggle for existence of the ages between living beings, the battle of the unicellular organisms of vegetable and animal life with the multicellular and highly differentiated animal at the summit of creation.

Preventive medicine is as yet pricipally confined to the offensive warfare against our enemies, the pathogenic bacteria. Great and wonderful results have been achieved in this work during the last half of the nineteenth century. Yet it is dawning upon us of late that in order to be completely successful, and to properly meet many of our most serious diseased conditions, there is also a defensive aspect of preventive medicine of perhaps even more importance than the germicidal warfare. The defensive aspect looks to the strengthening of the human body, to the perfecting of the individual organism so that it shall be able to resist the attack of the pathogenic bacteria by virtue of its own inherent powers and mechanism.

For instance, pulmonary tuberculosis is due to the growth and development of the tubercle bacillus in the pulmonary tissues of a susceptible subject. In the past we have mainly tried to exterminate the enemy by shots and shells of antiseptics of all kinds. But we are now learning that the tubercle bacillus is well nigh universal, and is an army without limitation as to number, and practically indestructible. It will

probably be found when we learn the whole life history of this organism that its habitat is coextensive with animal life. Old well-known facts, as well as late researches, indicate that most, if not all, adult human beings harbor it. Why, then, has it not exterminated the human race long ago? Evidently because the majority of mankind is immune to it. It may stay quiescent in such immune body indefinitely, but cannot develop until some change in the body takes place that engenders a soil suitable for its unlimited growth and development. The prevention of tuberculosis implies, if I mistake not, not so much a germicide warfare against the tubercle bacillus as the evolution of a race of mankind immune to it.

But it is especially in diseases of the nervous system that preventive medicine looks anxiously to the securing of a normal organism as the *sine qua non* for success. Contemplate for a moment the enormous increase of mental disease during the last century in all highly civilized countries. If this ratio of increase keeps on for another century, one-half of humanity will be under legal restraint as criminals and defectives, while the other half will be busy taking care of them. The increase of mental defectives, that is, in the broad sense of criminals, insane, idiots, inebriates, and tramp-paupers, is the black cloud on the horizon of modern civilization, and unless some means be found to stop its progress, will in course of time wreck our civilization and bring on another Middle Age.

Who shall minister to a mind diseased? Here therapeusis is a confessed failure. We must prevent it. How? By studying the underlying causes of insanity and crime. Heredity plays the chief role. The defective, unstable, nervous system lies at the bottom of the trouble. To be sure, the environment of the strenuous life of modern civilization has its influence. But if modern progress is real progress and is to be permanent, we must raise men and women who can stand its strain.

But here I am on the borderland of the sociological aspect of my theme, and while here let me make a little digression. Look at the crumbling architectural monuments of ancient civilization, in Egypt, in Greece, in Rome! What do these magnificent ruins teach us? That the human race has time and again progressed and then gone backward. That notwithstanding the progress and excellence in many respects of these ancient civilizations, race degeneration overtook them and left them wrecks on the shore of time. They could build empires, create literature and works of art, but could not save themselves from race degeneration.

Our civilization is the achievement of the higher type of man of modern times. To keep what we have and still go onward we must keep up the quality of the highest type of mankind. The majority of the individuals of society must be born with a healthy organism and a well-balanced nervous system. Now the condition of a living organism is determined by two factors: heredity and environment. Darwin demonstrated this truth to the world half a century ago.

Before the appearance of Origin of Species, the whole world, learned and unlearned, believed in the doctrine of special creation. Man was created in the image of God, his maker, who breathed into his nostrils the breath of life, and man became an immortal soul. Man stood entirely apart from the rest of creation. He had a soul, a spiritual essence entirely different from and no part of his material body. This immaterial essence was not subject to the ordinary laws of material nature, for how could matter affect spirit? Whenever an individual of the human race came into existence it was a special creative act of divine power. This is the old philosophy regarding the nature of man.

Now, under this belief the question of heredity is excluded. Of course it was not denied, could not be denied, that children resembled their parents in the material body, but that was only the covering, the dwelling place, of the soul, which after all was the real person. Hence no human interference could be possible, or permitted to restrict or modify the propagation of the human race. It was considered all right and proper to cultivate the breed of horses and cattle and dogs and poultry, for animals have no souls, but man must be left free, no matter how diseased in body or mind, to pair and propagate his kind as the sexual instinct and haphazard circumstances happens to favor.

It is this ignoring of the law of heredity in human propagation that has swamped human

progress and civilization time and again, and which we are now facing as the great problem to be given a rational solution. The old philosophy still permeates a vast majority of the leaders of society. They will reform and save the race by education, secular and religious, that is, by postnatal environmental influences, while they shake their heads when you talk to them about purifying the stream of humanity at its source. Of course proper environment of our children is important. I shall come to that later. My immediate theme now is heredity.

Every individual now living is a reproduction, a repetition of his ancestors—only a pulse-beat in the life of his clan. The essential part of organized living beings, man included—the soul in the biological sense—is the race cell, the sperm and germ cell of bisexual generation, through which heredity is transmitted. The race cell does not, properly speaking, reproduce itself, but only grows and divides forever. Now this human race cell during its sojourning through the ages of the past, and in its battle for existence has developed new functions, and organs to carry out these functions, until it stands to-day the complicated and wonderful organism at the summit of creation.

When the sperm cell and the germ cell meet to form the new individual of the race, they each carry a certain moiety of potential influence to direct the growth and development of the child. This potential influence we call heredity. Look at that young man there and see if you know him. You have never seen him before, yet you know him. "O, yes," you say, "this is young Mr. Smith. He looks just like his father when he was at his age." And so he does, almost so at any rate. Facial expression, look of eyes, shape of nose, manner of speech, stature, gesture, gait, complexion, temperament, mental and moral traits—all just like his father. How did Mr. Smith, Sr., thus reproduce himself in every essential detail in Mr. Smith, Jr.? By contributing a little globule of protoplasm of his race cell, less than 1-5000 of an inch in diameter, the sperm, which through its hereditary potency swayed natural and chemical processes, as well as the potency of the maternal germ, while building up this organism millions and millions of times its own volume! Wonderful isn't it? But there are the facts of heredity which can be seen and read by all men. Sometimes the germ moiety exerts the preponderating influences and then we have the essential characteristics of the mother reproduced in every feature and organ of her offspring. Now and then we see a complete commingling of the characteristics of both parents, when there is an evenly balanced potentiality in the sperm and the germ. Then again we see cases of so-called atavism, that is, a strong hereditary strain in some of the ancestors, suppressed for several generations, reassert itself and hold a determinating influence on development. There is no mystery about the hereditary influence on organized beings—only the subject has not been studied in regard to mankind.

But while heredity is the great vital force of all organized beings, environment, especially during the embryonic stage, is of great importance. During the embryonic period the great vital organs and systems are formed on whose integrity and capacity the health and longevity of the mature body depends. Hence the maternal intra-uterine influence on the future health of the child is of supreme importance, and scarcely of less importance than heredity from a pathological point of view. It is more than probable that it is during the embryological period that the so-called predisposition to many diseases is laid. The embryo is nourished exclusively by the fluids drawn from the mother. If she is below par in health, or suffers from toxemia, the embryo must suffer more or less damage. I venture to say that this subject has not received the attention from medical science that it deserves. Healthy mothers are a *sine qua non* to a healthy race. Let me relate the history of a family that illustrates the point that I am making.

J. S. and wife, living on a farm in moderate circumstances, both over 60 years of age, in fair health. Ten children have been born into the family and only two of them are now living, the two oldest, over 40 years of age and in good health. All the rest have died between 20 and 30 years of age of pulmonary tuberculosis. Very likely they were all infected at an early age at their home, but for years they were all well and then scattered all over the world from northern Europe to Australia. Between 20 and 30 years of age the last eight children took the fatal mal-

ady and in due course of time succumbed, and, as I stated, in widely different parts of the globe.

How do we explain such facts, and I know of other similar cases? There appears to be only one explanation, and that is that the eight last children born in the family were born with a constitution predisposed to tuberculosis. Nor is there any evidence of tuberculosis in the ancestors of this family. How did the predisposition, then, arise *de novo* in this family, and why have the two oldest children escaped? The only circumstance of a debilitating influence on the children of this family that I can discover is the strain of continuous child-bearing on the mother. She was pregnant or nursing a child, or both at the same time, continuously for nearly a quarter of a century. This, in addition to doing her household work, kept her on a strain all the time. Her original vitality enabled her to bear two healthy children, the two oldest, with a constitution sound enough to withstand disease. After that she could not do it. The last eight children came into the world physically defective, and at the susceptible age they all fell victims to tuberculosis.

Here is another family, N. N., of another type, that forcibly illustrates the influence of heredity. Both husband and wife are mental defectives, not in such a degree as to come under the cognizance of statute law, but they both have the stigmata of degeneration all about them. They are native Americans, and part of a clan that emigrated from Virginia to this state during the Civil War. At 17 the mother found herself in an interesting condition, and was duly married to the boy of 20. Ten children have come to this interesting family, and the end is not yet. One child died of malignant disease at 3 years of age, but the rest are healthy and as tough as hickory sticks, and none of them will ever die of tuberculosis. The whole outfit is lazy, shiftless, thieving and devoid of moral ideas. The male members will live to good old age, as their ancestors are now doing, preying on society and bothering the police and the courts, and the female members to breed new and similar specimens of the tribe.

I have related the history of these two families as illustrations of the two leading phases of my subject, to-wit: hereditary and maternal influence, the latter particularly during the embryological stage.

You will notice that the heredity of the first family is to all appearances good. The family belong to the middle class of society, equally removed from the degenerate aristocracy on the one hand as it is from the dregs of society on the other. Its members, being intelligent, industrious and moral. They are of a class that must be preserved to form the foundation of a higher and nobler type of humanity.

The blight of this family, I do not hesitate to say, was due to ignorance and consequently disregard of the laws of maternal hygiene on the part of the parents. They are honest and religious people, and were taught in their catechism that the object of marriage is to multiply and replenish the earth with their offspring, irrespective of the health, strength, or even life, of the mother. I firmly believe that if this family could have had proper instruction as to the physiology of maternity, as we now understand it in the light of modern science, this mother could have brought half of the number of children into the world, and all of them healthy. Understand, I do not mean to imply that too much childbearing is the only disqualifying condition for healthy maternity, but I mention this cause as quite frequent, and ignored, I believe, to a great extent by the medical profession. Indeed, all debilitating conditions, as well as actual wasting diseases, such as nephritis or tuberculosis, disqualifies a woman from performing the office of maternity. But the anemic debilitated victim of over-lactation is seen on every hand, and is a real danger to the future of the race. Now, if I am right, here is a vast field of preventive medicine that lies fallow and that has hitherto been passed by with a shrug of the shoulders as though it wasn't any of our business.

Now, I wish to emphasize that one of the most important duties of the physician is to advise the prospective mother in regard to her office of maternity. Dr. Frank A. Higgins, of Boston, in a paper read before the A. M. A., and published in "The Journal," Nov. 19, 1904, goes so far as to advocate abortion in early pregnancy in women suffering from chronic diseases. I am not prepared to pass on this question, but I believe pregnancy should be prevented in such

cases, and when we wake up to this subject in all its bearing, means and methods will be found to do so. Let us once recognize that the capacity in a woman for conception by no means gives her the moral right to become a mother; that parentage involves a grave responsibility and should be exercised with due regard not only to the parents themselves, but to the children and society at large, and the path will be cleared for one of the greatest medical reforms of the age.

I now turn to the other family, the type of mental defectives. What is the remedy for this inundation of filth into the stream of humanity?

This case partakes more of a social aspect, perhaps, than the former, but at bottom it is simply a case of vicious heredity, and hence belongs properly to the department of preventive medicine.

However, the statesman and moralist offer us the solution. They assert that post-natal environment, that is, education, universal education, secular and religious, is the remedy. To be sure, education is a mighty force and cannot be too highly praised. The little red school house has done, and is doing, wonders for the upbuilding of mankind. But is the power of education, great as it is, sufficient to counterbalance the utter neglect of the laws of heredity? That is the question. Our appeal lies to history to answer it. Education, religious and secular, has been enforced in several European countries for ages, and while its influence is everywhere wonderfully beneficial, it has not been sufficient to stop the increase of insanity and crime. A large and increasing army of police and soldiery is still maintained to keep in check vice and crime. How is it in this country, which stands foremost among nations in its endeavor to educate the masses? In a late magazine there is given a table of statistics of murders and suicides in the United States from 1881 to 1902, 21 years, which ought to be a revelation to the public. In 1881 the population was 51,316,000, the murders and homicides 1,266, suicides 605. In 1902 the population was 79,117,000 murders and homicides 8,838, suicides 8,132 over four times as many per capita as in 1881. There has been a steady, continuous increase all the time, with the addition of a heavy increase during the panic years 1894-1897. Comment on the figures is unnecessary.

Have you noticed how many of our young men from our so-called better families are going wrong in these latter days by defalcation, fraud and embezzlement? How is this curious phenomenon explained? I incline to think that most of these educated criminals were born with a predisposition to crime. Their fathers were grafters—respectable thieves—and they transmitted the strain to their children, in whom the noxious weed grew to maturity. A man who grafts $100,000 from the public is immune to statute law, but there is no immunity to the natural laws of heredity. "The fathers ate sour grapes and the children's teeth were set on edges."

Human stirpiculture has been and is yet a forbidden subject, because our old philosophy of the nature of man was erroneous. But now that the general truth of evolution has been accepted by the scientific world, is it not about time to begin to carry its principles into practice?

In former times, when natural selection had full sway, the weaklings of the race died en masse in the tender age of infancy and early childhood, eliminating much poor material. Later on, time and again, pestilential epidemics, famine, and exterminating wars swept over large sections of the earth like a prairie fire, leaving as a rule the hardiest specimens to re-populate it anew. This force has been especially active in northwestern Europe, and has been a leading factor in evolving its present dominating race. Its history begins in the kitchen-middens and care-deposits and ends in our own times.

But modern progress and science have interfered with this natural selection, and now we preserve everything that is born, no matter how feeble its tenure of life—preserve it to propagate its tendency to disease and degeneration. We have artificially interfered with one process of nature, and now the question is, will we not also have to interfere at the other end of nature's process to come out even? Will we not have to regulate generation as we have regulated extermination?

I would not be understood to undervalue other factors in the race problem because I now emphasize the importance of heredity and early maternal impressions. I believe there is something in Dr. Gould's theory of ocular defect on the race problem. I concede the vast importance of edu-

cation, mentally and morally, and the psychological factor, the brain force, of so much more importance in our age than formerly. Yet at the last analysis, the conscious mind, spirit or soul, call it what we will, is after all the sum of the impressions on the peripheral sensitive nerves. Hence normal mentality implies normal brain tissues and functions as well as a normal peripheral sensitive apparatus, and a healthy structural and physiological condition throughout the whole body.

This normal, conscious mentality of man may be trained and developed to grasp the mechanism, the grandeur, the beauty, of a universe; to see the eternal principles of justice; to feel the unspeakable pathos of love; to soar on the eagle wings of imagination into the infinite realms of fancy, yet its substratum is the physical body of man. It grows from infancy to maturity and declines with old age until it ends in dotage, unless life is terminated before. Toxins in the circulating fluids, introduced from without, or elaborated within the body, derange or abolish the normal function of the brain, and delirium or total abolition of consciousness results. Shakespeare understood the condition of King John when he says:

"The life of all his blood
Is touched corruptibly, and his pure brain,
Which some suppose the soul's frail dwelling-house,
Doth by the idle comments that it makes
Foretell the ending of mortality."

Reason how we may about mentality, we finally get back to physical man, and normal, physical man comes only through the natural process of good stock, healthy maternity and sound educational training. Omit either of these factors and race degeneration is the inevitable consequence.

We are now expending our grand efforts in behalf of humanity by trying to purify its stream by chemical antidotes and bucket-filters along its stagnant pools and side branches, while the sewers of human degeneracy are emptying into its fountain. This, however excellent in its way, is neither scientific nor rational. What we want is some effective filtering apparatus at its source, or better, a purified drainage area from which the crystal drops of humanity can descend pure and undefiled to mingle in the great river of humanity below.

Nor is this idea utopian to the modern scientific vision. The mind of man that has measured the infinity of a universe, grasped the law of gravitation, unravelled the history of geological eras, millions of years in duration, resolved light into its elements and harnessed electricity to its chariots, ought to be able to sweep and garnish the attics and cellars of its own dwelling place to insure the health, happiness and progress of its own progeny.

MEDICAL ETHICS AND MEDICAL ORGANIZATION*

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I take it that the main object of medical associations is for the purpose of discussing subjects of vital importance to the medical profession and to mankind in general; not only to discuss matters pertaining to the promotion of the physical welfare of the community at large, but also to elicit from the members their opinions as to the best course to pursue in the direction of obtaining the greatest benefits for our profession—to crystallize out the brightest thoughts and then to put these on an efficient working basis. Thus concerted thoughts stimulate to concerted action, which under the banner of unity, truth, and justice, is ever victorious.

Unity of purpose and action and consolidation are to-day, more than ever, recognized as the most potential forces in the social organization. As I view it, we shall fail to do our duty if we do not make use of these mighty forces for our betterment, not only as regards our scientific and ethical advancement, but also in respect to our financial improvement.

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I realize that the subject we are going to dissect to-day is not very pleasant to handle, but I beg of you to bear with me for bringing out a subject, even slightly odoriferous, for its dissection is vital to our best interests.

I will say in the beginning that I personally bear no ill-will towards any of the members; that this paper was written with malice towards none; that I shall feel exceedingly sorry if any of the members take offense at what I say. I will admit that some things I shall say may appear to cast a reflection on some—on me, on you; in fact, on most of us. But the existing conditions and influences at work outside of our profession, over which we have no control, furnish valid excuse for our conduct; and, as it is for our common good, it is our duty to discuss this matter in a friendly spirit.

The object of the present paper is to bring up for discussion a subject which seems to be undermining the welfare of the medical profession—this gnawing ulcer which is extracting our best life-forces and creating a stunted growth of a profession which now, and more than ever, should be in a very robust and flourishing condition, financially, ethically, and scientifically.

In passing, I desire to refer to a falsehood that often appears in medical journals and is frequently uttered by doctors, namely, that we practice our profession mainly for a philanthropic and charitable purpose. This utterance should not be sanctioned. The accepted and universal principle among men is that where conscientious services are rendered there should be adequate return. Philanthropy is beautiful and should be fostered, but only for the benefit of the deserving.

In order to better open the subject, I will relate an incident in my experience. Four capitalists held a conference to which I was invited, with reference to the opening up of a hospital. A had made his money in mines; B in sheep; C in timber; and D in the brewing business. All had control of many financial enterprises. The following colloquy occurred:

Mr. A. "Gentlemen, my proposition is this: We put up $25,000 each and build and equip a first-class hospital. From the start I can guarantee to the hospital a cash income of $1,000 per month from the money deducted from the wages of men employed in undertakings over which I have control; each of you gentlemen can guarantee as much, if not more. From the start, at a low estimate, we have a guaranteed cash income of $4,000 per month, or $48,000 per year. If we, in addition, start a training-school for nurses, our expenses will be very light. We can also bring pressure to bear upon concerns with which we are indirectly connected, and thereby obtain several thousand dollars more. In addition to this, the income from private or pay-patients, whom the doctors bring in, will foot up a goodly sum yearly. So, you see, gentlemen, the initial money paid out will soon be returned to us, and in a short time we can count on solid monthly dividends."

Mr. B. "But, Mr. A, we shall have to employ a good many doctors, and they will undoubtedly demand good salaries."

Mr. A. "Why, no, Mr. B, we need not pay the doctors a cent for their services. They figure that being connected with a good hospital will bring them a certain prestige and advertising in the community; besides, when pay-patients come, the doctors charge them for their services. For these considerations they treat our 4,000, or 6,000, or 8,000, or more patients for us for nothing."

Mr. B. "This is certainly a remarkable business proposition."

Now, gentlemen, these are the general principles on which hospitals are built and run by lay-concerns, and sometimes by doctors.

It has become a custom among corporations employing a good many men to deduct a certain amount per month from the men's wages, for sick purposes, and this custom has been especially fostered by these hospitals. The hospitals make bids for this money to the various corporations and manufacturing establishments, such as railroad companies, street-car companies, mining and smelter companies, ice companies, coal, iron and steel companies, companies manufacturing glass, furniture, etc.; in fact, all kinds of concerns employing from a few men to up in the thousands. The bids run from twenty cents to one dollar per month per man. The average bid is somewhere near thirty cents; some even make bids at from twenty cents to two dollars per month per family. There are instances in the East where bids have been made

at ten cents per family per month. It is safe to estimate that two-thirds of the working men of the country get their medical services at these cut rates. It may also be added that bids are made by these hospitals, or by doctors, to certain secret organizations at from twenty-five cents to one dollar per month per head. It has been a curious thing to notice during the last three years what a furore of indignation has swept through the medical journals and through medical organizations against doctors who bid merely in this lodge practice. This reminds one of the Irishman who was trying to catch an obstreperous bull. The Irishman caught the bull by the tail, but the bull tore itself loose, minus its tail. When the Irishman exclaimed: "By me shillalah, I have got its tail, anyhow."

Gentlemen, we must rope this mighty bull by the neck; its tail will do us very little good.

We know that if lay concerns bid in this lodge practice not a word will be said.

Now, it is very hard to obtain exact figures, but it would possibly be a low estimate to say that about thirty or forty millions of people in this country obtain their medical services, a few for nothing, but the most of them at ridiculously low rates.

We may say that they pay out for medical services from fifteen to twenty-five million dollars annually; but, mark you, these millions go to lay-concerns, and not to the doctors to whom they properly belong.

We will now look into the conditions here in Utah and adjoining states. A miner or smelterman pays out of his wages to these hospitals one dollar per month. These men obtain better wages than most laboring men, say from $2.50 to $10.00 per day, or an average of about $3.00 per day. Railroad and street-car men pay to the hospitals from twenty-five cents to fifty cents each, or an average of about thirty cents. These men also earn good wages. Now, it is fair to estimate that the majority of the laboring men here obtain their medical services at these low cut-rates, and that the hospitals obtain in this way between $25,000 and $50,000 annually. The doctors do not get a cent of this money. It is true that the railroad and street-car doctors are paid by the railroad and street-car companies, but the salary is small; therefore the situation throughout the country is this: Millions of men earning good wages obtain their medical services for nothing, so far as the doctors are concerned, for the doctors do not receive any fee from the hospital for treating them.

But someone will say that the hospitals dispense a great deal of charity to people unable to pay. As a matter of fact very little charity work is done by the hospitals. Where a city or county has no hospital of its own, the city or county pays the expenses of the hospital for treating city or county patients. It is true that there are a few institutions established by rich, philanthropic people for the benefit of, and as a home for, old people, such as old miners, etc., but they are few.

We will next examine what our Code of Ethics says:

"Article VI.—Compensation. Sec. 1.—By the members of no profession are eleemosynary services more liberally dispensed than by the medical, but justice requires that some limit should be placed to their performance. Poverty, mutual professional obligations, and certain of the public duties named in Section 1 and 2 of Chapter III (sanitation) should always be recognized as presenting valid claims for gratuitous services, but neither institutions endowed by the public or by the rich or by societies for mutual benefit, for life insurance, or for analogous purposes, nor any profession or occupation, can be admitted to possess such privileges." (Journal Am. Medical Association, p. 1380, 1903.)

We will all admit that our code prescribes our course in no uncertain words on this subject.

We may be asked what wrong there can be in this—that lay-concerns are allowed to pursue this course? It is a travesty of medical ethics. It is a gross injustice to the medical men, crippling the financial resources of our profession, and therefore acting as a barrier against high attainments in scientific advancement, and depriving us of the exalted standing we should occupy in the forefront with the other professions.

For several years we go through courses of severe study, both practical and scientific, in order to fit us for this responsible position, in the expectation of reaping just returns. At the very threshold of our entrance into our professional career we are forced to realize that laymen who have no knowledge of medicine whatsoever have

cornered, and hold within their grasp, the field from which the medical men should reap their surest and biggest returns; for it must be admitted that the working classes who receive the hardest knocks in the battle for existence are the mainstay of our profession, as they are constantly in need of our services.

Now, gentlemen, we should not permit our profession to suffer this gross injustice by which laymen are allowed to bid in for their own gain this practice—an immense income, which by right belongs to the medical men. These lay concerns, holding the whip, force us to accept conditions which are derogatory to the best interests and advancement of the medical profession. We are made parties to a deal, which is a gross breach of the most vital principles of our code of ethics, and against the sound usages of the business world; for we will all agree that it is highly unethical and against every business principle for us to treat millions of men for nothing—men who earn good wages. There can be no valid excuse offered to defend this principle. This sin against our code has become so customary amongst us that we feel like the farmer who took a trip to the city for a few weeks' stay. When he returned home, he said he nad been eating oleomargarine so long that he felt ashamed to look his honest cows in the face.

We are thus continuously violating one of the most vital principles of our code and purposes of our organization, while, at the same time, we are incessantly advocating the observance of the less important rules of our code.

This course is inimical to the fundamental requirements governing sound organizations. It is folly. The natural result is a wavering, weak, if not retrogressive, organization. There can be no vigorous growth nurtured in such a barren soil.

In order to stimulate unity and to enjoy the benefits resulting therefrom, we must, in the first place, be loyal to the vital principles of our organization. In the second place, we must all abide by the dictates of these principles. We cannot allow some to use the code as a scarecrow for their own selfish end. It is only visionary to talk ethics and organization, if we cannot agree on these two cardinal points.

There can be no unity before this evil is rooted out. As the conditions now are, those doctors who advertise that they treat patients at five dollars per month are really more honest and ethical than we are, who try to get our practice by circumvention and by being parties to a deal which is a dishonor, a demoralization, and a pauperization of our profession. If cut-rates are to be given to companies, let the medical men do so as a unit, and let them secure these profits.

As it is now we are doing charity work, not for those who are entitled to it, but for capitalists. These millions of men to whom the doctors render their medical services for nothing obtain good wages, and should not be subjects of charity. Most of them belong to organizations whose demands are for higher and higher wages. You request one of them to do some work for you for nothing, and he will laugh at you and ask you if you are out of your mind. They ask of you a fair return for their work, and we should do the same of them. If we were millionaires there might be some sense in it if we gave our services for nothing; but the fact is, few doctors are millionaires, and never will become so under the present conditions. The truth is that the majority obtain but a comfortable living by their practice.

The conditions that confront us are also a bar against the rapid advancement of our profession in scientific research and great medical discoveries, because men who have talent and inclination in this direction are held back by their struggle of earning a living, and therefore humanity is a loser.

This is also the reason why medical science occupies a lower position than other sciences. The existing conditions which deprive medical men of their just financial returns also prevent all but a minority from visiting great medical centers in order to broaden their minds and improve their skill.

Gentlemen, I think we will all agree that we owe it as a duty to ourselves, to our families, to our professional honor, that this lowered financial standing of our profession should be remedied. It is a byword among business men that doctors are poor financiers. This is quite true, as can be easily proved by examining the internal workings of our organization; and this fact does not give credit to our integrity and self-respect.

Our profession, which should be among the foremost forces in the social organization, has but a feeble voice in the weightier questions of to-day. Not a single medical man was found worthy enough to have a place in the "Hall of Fame" in Washington.

When we look into the organizations governing other professions and occupations we find them in an excellent working condition, such as those of capitalists, bankers, lawyers, teachers, clerks, and different labor organizations. You may, for instance, call on different plumbing establishments for bids on a plumbing job, and you will feel the firm grasp of their union; and so with other organizations.

When we survey the situation, we find that the solid organizations of the different professions and occupations have improved in every way the status of their members, while, with the medical profession, this is hardly the case.

It is quite an irony of our integrity to look at the palatial hospitals we have built for the capitalists. In return we are permitted to send our pay-patients there, the hospital charging us a fancy price for a nearly bare room, and a nurse, who generally divides her time between a couple of dozen patients. On the other hand, we find very few doctors who are rated as monied men. Even men who have practiced for years, and often in the service of big corporations, rarely own a fine home. Very few can afford to take a protracted vacation or retire from practice in their declining years. This should not be. A profession as responsible as ours is should reap handsome returns. This is human, and we are no more than human.

In every walk of life the principle is applied that the more responsible the position occupied by a person the greater should the returns be. We have allowed lay concerns to put us on a false pedestal of philanthropy and charity, to their gain. We are perfectly willing to do charity work for the deserving, but not for the capitalists.

We are constantly struggling to discover surer remedies for the bodily ills of the human race, in order to promote the physical welfare, happiness, prosperity, and the working capacity of the individual. In return they owe us a debt of financial prosperity; but as, in a great measure, we are denied this, it ought to be our duty to remedy our financial ills. It seems that the remedy can be readily found, and easily applied.

The American Medical Association has made the county medical society the unit or basis on which to build its structure. In every large state the county medical societies should own and run a first-class hospital, or, in less settled states, the state associations, or several county associations, should affiliate and own and run a hospital together. The members, as a unit, could easily borrow enough money to build and equip a first-class hospital, or, at the worst, they could contribute to a fund for the buying of a lot. Having a lot it would be no trouble to borrow the balance of the money for the building of the hospital. The hospital should be owned, managed, and controlled by the association. The members of the association should constitute the staff, each member taking his turn of duty in the hospital,—those best equipped in the surgical line as surgeons; others in the medical ward; others in the laboratory; some in special branches; etc. A training-school for nurses should be started in conjunction with the hospital, which would make a great reduction in the running expenses. At first we could not count on more than two-thirds of the members sending their patients to the association hospital, but, even so, the hospital would have a fine income. It would only be a matter of a short time when all the members would come into the fold. The medical income controlled and cornered by lay concerns should next occupy our attention. Undoubtedly, two-thirds of this could be easily bid in, even if, in some few instances, participation had to be invoked. The richer corporations having an interest in the lay concerns would in time come our way. How? The doctors bringing their patients to the association hospital, and bidding in the bulk of the medical work of the minor corporations, would soon so badly cripple the lay concerns that they would, in a short time, die a deserved death.

The dividends from the net profits of the association hospital should be distributed equally among the members of the association. When any doctor located here and joined the association, he should serve the hospital for nothing for

a certain time before he could participate in the dividends.

Let us suppose the hospital had two hundred beds, one-half of which were for private or pay-patients. This means one hundred productive beds, and these could readily be kept full all the time. Say the average charge per week per bed was $15.00, or $1,500 per week. That means six thousand dollars per month or $72,000 per year. In addition to this, we could count on from $25,000 to $50,000 per year from different corporations. The total would amount to from $97,000 to $122,000 annually; but as we would soon practically control all the practice and then be able to raise our rates to a fair standard, to the different corporations, our yearly income would soon foot up much higher. As it was found necessary, additions could be built gradually.

This is but a rough outline, but I am satisfied that the details could be readily worked out.

Gentlemen, I chose this subject for discussion because I believe that the right solution of this question is of the greatest importance to the welfare of the medical profession, and I think that we will all agree that in the not distant future we must take a decided stand on this subject. If the problem be solved as it should be, it means to our profession unity and stability; an exalted, respected, and honorable standing; prosperity, rapid progress, and high achievements in all lines of medicine and surgery, redounding to the benefit and happiness of mankind in general; while, on the contrary, if this pivot on which our organization oscillates for better or worse, is left unguarded and neglected, it will be made use of by the unscrupulous, setting us on a plane of backward decline, casting us into a state of servility to the dishonor of our professional standing and acting as a check on the beneficence to humanity that should flow from a flourishing profession.

The noble spirits of the founders of our earliest associations appeal to us; appeal to our integrity, honor, and sacred dictates of conscience of right and justice; appeal to our self-respect, that we should endeavor to uphold and defend these just and beneficent principles, which they have handed down to us through the rules and purposes of medical associations, and through the code of medical ethics; that as true sons we should never permit the cloven-hoof to trample on those sacred principles; that, as true sons and as members of a noble profession, we should be ever ready to dispense charity to the deserving, but ever watchful to uphold the sound business principles of mankind.

DISCUSSION

Dr. S. Ewing: I certainly think all the members present, as well as myself, have been interested in these papers of Drs. Viko and Condon. We will take Dr. Viko's paper, which I think afforded us food for a good deal of thought. The remarks of the writer in regard to the hospitals and the doctors, that the hospitals get the money and the doctors do the work, were not overdrawn, and I believe the doctors are doing an injustice to themselves by letting this matter go on in this way. Some will say it is all nonsense—that you couldn't get more than two or three doctors possibly to put up money and start a hospital. It seems to me that if we should get to work and figure out what the prospects might be, we could raise the money. We should get fifty doctors who would put up some money and buy a lot; we could then borrow money to establish a hospital; and the proceeds would then go to the doctors, pro rata, according to what they have done, after having served a certain length of time on the staff. Now, do the hospitals make any money? Do they enrich themselves? Do they gain property? They certainly do. Take the Sisters' Hospital, and see how they are growing and how they are accumulating and getting more and more property. The same is true of St. Mark's Hospital. Now, isn't it an outrage that all the proceeds from the patients go to an asssociation in which the doctors have no financial interest. I certainly endorse the paper clear through. The figures are correct, or nearly so.

Dr. P. E. Jones: It seems to me the subject of this paper should not be allowed to pass without further consideration. In all parts of our country hospitals are a necessity; everybody, I think, will admit this. That they are conducted today as money-making institutions and means of profit to the promoters and supporters, I do not believe, nor will I admit it. As a matter of fact, instead of dividends being distributed at the end of every fiscal year, assessments are levied. Now, I wish to ask you, gentlemen, if the members of the profession of medicine, in addition to rendering a great deal of service to needy humanity, are in a financial condition to meet the assessments that would necessarily have to be levied and that are levied. Those of us who are connected with hospitals in Salt Lake City know very well the labor and the very strenuous efforts put forth to sustain them, and for one I would like to have the impression go out from this society that they are money-making institutions, without challenging that proposition. I know so far as Salt Lake City is concerned that it is certainly not the case.

ST. BARNABAS HOSPITAL

MINNEAPOLIS

THREE CASES OF DUODENAL ULCER AND ONE CASE OF GASTRIC CARCINOMA

The following cases were practically contemporaneous, and since each offered considerable diagnostic interest, they are reported here together as valuable for comparison. In not one of the first three could a positive diagnosis be made. In the fourth the diagnosis of ulcer was thought to be fairly definite, but at operation it proved to be carcinoma.

Case I.—Mr. P——, a laborer, aged 40, entered the hospital in the service of Dr. G. G. Eitel. He complained of having had stomach trouble for twenty years, which of late had grown so severe as to make him desire surgical interference. He suffered with constant pain about the umbilicus, the pain apparently uninfluenced by food in the stomach. He had had no severe attacks of gastralgia. He was annoyed by frequent acid eructations; his appetite was extremely variable. He rarely vomited and had never vomited blood. He had never been jaundiced, and had had no bowel disturbances. On physical examination he was seen to be thin, but not markedly emaciated. There was no marked pallor. No tumor could be made out, but there was considerable tenderness in the epigastrium and to the right extending from the gall-bladder region to the region of the appendix.

Gastric ulcer, gall-stones, and appendicitis were all possibilities, and an exploratory operation was determined upon. The incision was made to the right of the rectus muscle over the gall-bladder. No gall-stones were found. The appendix, however, showed signs of chronic inflammation, and it was removed. The stomach and duodenum were next examined. A small ulcer was found just above the biliary papilla. It had perforated, but by a process so gradual that the peritoneum was entirely protected by tough fibrous adhesions. The edges of the ulcer having been rolled in, the serous surfaces were brought together with silk sutures, and a gastro-enterostomy performed by means of a large Murphy button whereby the jejunum immediately below the duodenum was attached to the posterior aspect of the greater curvature of the stomach. The convalescence was uneventful. The button was not passed until the twenty-eighth day.

In this case the tenderness and pains were probably due in part to the old appendicitis. Had operation not been performed this ulcer might very possibly have healed spontaneously in time, nature having already started the healing process.

Case II.—Mr. A——, a farmer, aged 63, was also in the service of Dr. G. G. Eitel. He had been in excellent health until three years ago, when he began to have stomach trouble. He continued working, however, until three weeks before entering the hospital. At that time his symptoms intensified. He had almost constant pain in the region of the gall-bladder and considerable tenderness. The pain was not influenced by food in the stomach. His abdomen became gradually distended. He rarely vomited, and had never vomited blood. When he entered the hospital his condition had become very serious. His temperature was 103°, the pulse scarcely perceptible, and the abdomen enormously distended. He was suffering considerable pain, the pain extending well down from the gall bladder region into the right iliac region, decreasing in intensity from above down. Intestinal perforation was suspected, but the patient's condition did not warrant operation. He died two days after entrance. The autopsy which was performed by Dr. S. M. White was incomplete, and only parts of the kidney, spleen, duodenum, stomach, and abdominal aorta were obtained.

POST-MORTEM FINDINGS

Aorta.—Extensive atheroma; a few small and one large ulcer found.

Spleen.—Slightly enlarged and softened. Distinctly mottled on cut surface. Microscopically, many miliary tubercles in both the pulp and capsule, and many giant cells.

Kidney.—Normal size and shape; capsule somewhat thickened and not easily torn off. Some of the vessels injected. In the center a

number of small grayish areas, the largest about 2 m.m. in diameter. The microscope showed inflammatory areas throughout, including capsule, glomeruli and uriniferous tubules. Many tubules beneath the capsule atrophied. Caseous areas with giant cells found among the uriniferous tubules and near the capsule.

Liver.—Gross appearance showed no changes. Microscopic examination not allowed.

Pancreas.—Apparently normal in size and shape, but adherent to the duodenum to an abnormal extent. Microscope showed several caseating areas with giant cells found within the lobules and the connective-tissue area near the duodenum.

Stomach.—Walls thin and smooth, few folds. When opened contained a black fluid. At the pylorus thick edematous folds.

Appendix.—Normal.

Large Intestines.—Adherent in places to the peritoneum.

Duodenum.—Contained two ulcers; one in the lower and posterior wall near the pylorus extended down into the adherent pancreas. This ulcer, deeply situated between the folds of the duodenum, was about ¾ in. in diameter, and narrowed down at the base, the base consisting entirely of pancreatic tissue. The edges were slightly undermined, the border irregular, and the walls stained by pigment from old hemorrhages.

The second ulcer was about ½ in. from the first and in line transversely to the long axis of the intestine. This ulcer was ¼ in. in diameter, and broadest at the inner side. The muscularis and serosa were perforated at the center and base, the opening being about 1-16 in. in diameter. The walls smooth, the margin slightly thickened, the thickening being in the submucosa. The perforation was surrounded on its peritoneal surface by fibrinous adhesions binding it to the wall of and adjacent portion of the intestine.

Microscopically: Mucous membrane destroyed, submucosa greatly infiltrated and necrotic, muscular coats greatly infiltrated and bundles separated. The cellular infiltration consisted of round cells, and gave no evidence of tuberculous or other specific granulometous process.

Case III.—Entered the hospital Dec. 3, 1904, in the service of Dr. D. C. Cowles, who had been first called to see the patient, a man 55 years of age, that morning, and found him vomiting a greenish fluid and complaining of intense pain, which radiated all over the abdomen. He had the typical Hippocratic facies. There was no temperature, and the pulse was 120. On examination a mass, the size of a fist, was noted in the right groin, in the region of the right femoral ring. The mass protruded markedly, and was very tender; a slight impulse on coughing could be obtained, and it was very evidently a typical femoral hernia. It resisted all efforts at reduction.

Dr. Rochford was called in consultation, and the patient was sent to the hospital.

Family History.—This is unimportant except for the fact that several members of the family have been afflicted with femoral hernia.

Past History.—Has been well and strong except for a constant "sour stomach" and "heart burn," which has troubled him all his life, and for the relief of which he says he has taken "enough soda to sink a ship." In August, 1902, he had a very severe attack of stomach trouble, which was then diagnosed as either ulcer or cancer of the stomach.

The patient was operated upon immediately upon entering the hospital. Upon opening the hernial sac a turbid fluid with a few fibrinous flakes escaped from the abdominal cavity. The hernia was easily reduced, and the patient recovered nicely from the anesthetic. He refused all nourishment, however, saying that "it gave him so much pain in the stomach." Thirty-six hours after the operation he began to hiccough, then to vomit, the vomitus finally taking on a fecal odor. The abdomen became markedly tympanitic and tender. There was complete obstipation, the pulse became very rapid, and the temperature subnormal. He died at 7:30 p. m., December 6th.

POST-MORTEM FINDINGS

Patient was a fairly well nourished man, and weighed about 156 pounds. Abdomen tympanitic. Scar of operation in right femoral region. Autopsy confined to abdominal cavity. On opening the abdomen a large amount of milky-looking, sour-smelling fluid gushed out; coils of intestines were adherent and matted together, and covered by fibrinous flakes (the evidence of an acute peritonitis). There was no intestinal ob-

struction. The site of operation at the internal ring looked clean and free from any infection.

On turning back the stomach, fluid gushed out from an opening as large as a lead pencil, which seemed to be located at pyloric end of stomach. When, however, the stomach and duodenum were opened the perforation was found to be at the base of a round ulcer, which was situated in the duodenum on the posterior wall just beyond the pyloric ring. There were many adhesions between the duodenum at the base of the ulcer, and the gall-bladder, liver, and omentum.

The walls of the ulcer were not markedly thickened, and gave no evidence of carcinomatous infiltration. No enlargement of lymph glands in neighborhood of the ulcer.

In the right kidney a cyst, the size of a hen's egg, connected to lower pole of the kidney by a narrow pedicle. The cyst was filled with a clear fluid. The left kidney also contained a small cyst buried in its substance. From the appearance of the ulcer it would be difficult to say whether the perforation had been produced by the vomiting brought on by the incarcerated hernia or not.

Case IV.—Mr. L——, aged 54, in the service of Dr. T. F. Quinby.

The patient first experienced gastric pain last June, and his trouble was considered to be severe dyspepsia. The pain became very severe, and he was not able to endure solid food. He never vomited, and as long as he confined himself to liquids he had little or no discomfort. As he grew steadily more thin and anemic, in October a test-breakfast was given. When a tube was passed an hour later the stomach was found to be almost empty. Free hydrochloric acid was found, however, and lactic acid was absent. There was no difficulty in passing the tube, but when withdrawn a little blood was observed in the eyelet. When examined microscopically this showed neither tissue nor cells.

Repeated physical examinations were always negative for tumor, although there was considerable tenderness in the epigastrium. Owing to the negative nature of both signs and symptoms, and the long duration of the trouble, the diagnosis was thought to be that of gastric ulcer, and Dr. Eitel was asked to perform an operation. At the cardiac end of the stomach a large hard nodular mass was found. It lay at one side of the cardia, and thus produced no stenosis. The glands along the lesser curvature were all extensively involved. The location of the tumor was such that the ribs prevented its being discovered by palpation.

REMARKS

The question of the diagnosis of gastric from duodenal ulcers by clinical symptoms is a very nice one. In the cases given above only one of the three distinguishing characteristics given by Bucquoy was present, i. e., the location of the pain to the right rather than to the left as is usually the case in the gastric variety. In none of the cases was there intestinal hemorrhage or the violent gastric crises. The dorsal pain point, which is so common in the stomach, was also absent in these cases.

In relation to Case III, in which ulcer was not suspected, it is interesting to note that scars of healed ulcers are more frequently found at post-mortem than one would suspect from clinical observations. Welch makes the statement that such scars are found in about five per cent of persons dying from all causes.

The condition of the aorta in Case II is interesting in view of the embolic theory of ulcer etiology.

The miliary tuberculosis, which has been found, was also interesting as having been entirely overshadowed by the symptoms of peritonitis.

It is not at all uncommon for carcinomata to become implanted upon an old ulcer scar, and the long duration of Case IV might lead one to suspect that condition here. The position of the growth, however, was such as to safely preclude such origin in this instance.

DR. ABBOTT'S PRIVATE HOSPITAL

MINNEAPOLIS

THREE NEPHRECTOMIES PRESENTING UNUSUAL CONDITIONS*

In the Service of Dr. W. A. Abbott

Case I.

July 27, 1904. Mrs. ——, married, tripara. For six years pain and dragging in right kidney region. Pain absent for long periods; more fre-

*Presented before the Minneapolis Pathological Society at its October meeting.

quent of late, and constant last two weeks. Worse during last pregnancy three years ago. No cancer, tuberculosis, or rheumatism in family. Right kidney large and tender. Temperature 102°. Urine sp. gr. 1010; pus 17 to ¼ inch field; albumen and sugar negative; no tubercle bacilli.

Segregator: Right kidney no urine; left kidney 7 c.c. in 15 minutes.

Cystoscope: Bladder and ureteral orifices normal. Catheter passes only 1¾ in right ureter.

Operation.—Perirenal tissues one-fourth to one-third inches thick; dense adhesions. Kidney on exposure showed yellow spots elevated and scattered over surface. Kidney considered tubercular, and removed. On opening the kidney the yellow spots seemed to lie in the kidney substance mostly at the base of the pyramids, and to project above the general surface as though they were more solid than the rest of the tissues.

On microscopic section the yellow areas seem to be inflamed in rather small areas; in others there is a marked fibroid degeneration. The arteries are sclerosed and there are large areas without glomeruli or tubules. There is a marked hyalin degeneration of the glomeruli. The yellow spots are not so evident microscopically as macroscopically.

In the lower pole of the kidney there were no yellow spots, and no appearance of cortex or pyramids. The microscopic section of this part shows the same areas of round-celled infiltrations, obliteration of the arteries, but not so much fibroid degeneration. In this part of the kidney the epithelium of the tubules and glomeruli has much the appearance of the analogous cells in the fetal kidney; i. e., there is apparently a lack of full development.

What gives the color to the spots at the base of the pyramids? It is not fat nor do there appear to have been hemorrhages. There is no appearance of tuberculosis.

If this is a case of chronic interstitial nephritis it probably represents a unilateral disease because since the kidney was removed the patient has rapidly improved and the urine is normal. Did the nephritis arise from the obstruction of the ureter?

Case II

Sept. 23, 1904. Miss F——, aged 40, single, always thin. General health has been good. Appetite fair, and bowels regular. Menses regular; now menstruating. One year ago she first noticed a lump in the left ovarian region; was never movable or tender, and did not vary in size. Never had cystitis or vaginal discharge. On Wednesday, Sept. 21, 1904, she was well as usual. Did the washing for the family the next day. About noon the tumor began to swell rapidly, and became painful. Called physician Friday a. m., and Friday noon she was brought to the city, 100 miles. Pulse, 130; temperature, 103°; W. B. C. 8400, Hb. 80 per cent.

Physical Examination.—Patient thin, abdomen not distended. Projecting two inches above abdominal surface was a fluctuating tumor 7x4 inches, extending obliquely to the right from a line joining the umbilicus and left anterior superior spinous process and midway between and into the left pelvis as low as a point opposite the internal os of the uterus. The uterus small and pushed to the right, and movable in relation to the tumor. Right kidney movable one inch, and made out with certainty. Left kidney not felt in normal position. Urine contained large amount of albumen, pus, and casts.

Segregation not attempted, as the bladder was distorted by the tumor.

Diagnosis.—Pyonephrosis with misplaced kidney or ovarian cyst and twisted pedicle. Operation 24 hours after the first symptom was noticed. Temperature, 103°; pulse 146 and very weak. Gave strychnine and saline enema.

Local anethesia. Small median incision; no adhesions. Tumor felt like an intraligamentous cyst. Ether then given, and incision extended to above umbilicus. Tumor exposed with great difficulty. Tumor seemed to project under outer layer of mesosigmoid, the veins of which were much distended. Uterus re-examined, and again found distinct from tumor. Kidney regions again palpated through incision. Right found; left negative. Left ovary could not be examined on account of size and position of tumor.

The diagnosis was congenitally misplaced kidney, with pyonephrosis, or hydronephrosis more probable. Peritoneum over tumor incised, and

enucleation begun. A true capsule was soon found, and enucleation was then easy. The vessels were about one and one-half inches long, and seemed to come from the external iliac region close to the bifurcation of the common iliac. The ureter was about three inches long. These were tied off, and the tumor removed. There was no bleeding of consequence. The peritoneum and capsule were drawn up and stitched to the lower part of the abdominal wound, and an iodoform gauze inserted. This left the end of the tied ureter inside the sac, but close to bladder and very short. Rest of abdominal wall closed.

Kidney contained 40 ounces of old pus yielding staphylococci and colon bacilli on culture. There was only a small thin island of kidney tissue remaining in the under part. The ureter is closed where it enters the kidney. One or two dilated calices can be made out, but there is no indication of a kidney pelvis. There is a strip of calcareous deposit beginning near the urethral opening, and running downwards for about two inches.

The peculiar features of this case are:

1. That the pyonephrosis, which must have existed for a long time, gave her no perceptible trouble until the drainage suddenly ceased from absolute closing of the ureter.

2. The point of origin of the renal vein and artery.

3. The point of origin of the ureter.

4. The rapid convalescence of the right kidney, the pus, albumen, and casts disappearing in about a week.

The microscopic examination shows necrotic areas. The parenchyma is almost entirely destroyed, and the glomeruli few and distended. The epithelium of the few tubules is much altered where present.

Section of the uterer shows the same areas of round-celled infiltration and fibroid degeneration.

Case III

May 25, 1901. Miss F——, aged 27, single. Alexander operation three years ago. Cystitis followed use of catheter, and has continued since. Pus and albumen in urine.

Cystoscope shows ulcer three-fourths by one-third of an inch surrounding the right ureteral orifice. No tubercle bacilli in urine or from floor of ulcer. Argentum nitrate to ulcer and irrigation of bladder.

May, 1902, small ulcer at left urethral opening, right ulcer healed.

Right ureter admitted catheter easily. Left ureter admitted small catheter with difficulty. Argentum nitrate to ulcer and urotropin internally.

June 21, 1902. Cystoscope; no ulceration. Trigone red and velvety. Examination made at this time through incision made for an ovariotomy revealed no calculus in ureter, and no tubercle bacilli in urine.

December 8, 1902. Cystoscope shows left ureteral opening red, pus exudes. Right normal.

Left kidney large, tender and painful. Temperature 100° to 103.° Pus and albumen increased.

Left kidney was at this time incised. Several pus pockets. Pus f ℥ i. Colon bacilli on culture. No tubercle bacilli.

July 22, 1904. Constant temperature 99° to 100° for the last year. Sinus never healed. No tubercle bacilli in urine or sinus. Left nephrectomy. Perirenal tissue thick and indurated. Kidneys a mass of pus sacs; sinus removed with kidney. Ureter not removed, the patient being too weak.

Oct. 16, 1904. Patient is gaining in flesh and strength. Has had no temperature since the operation. Wound closed.

The microscopic examination of the kidney shows unmistakable tuberculosis, fibroid degeneration, parenchyma destroyed, and necrotic areas.

The points to be noted in this case are—

1. Although between twenty and thirty careful examinations of the sedimented urine were made during the three years the patient was under observation, no tubercle bacilli were found.

2. No tubercle bacilli were found in the curetting from the bladder ulcer.

3. Colon bacilli were found in the pus at the nephrotomy, but no tubercle bacilli.

4. Tubercle bacilli were never found in the unclosed sinus after the nephrotomy.

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THE SOCIAL SIDE OF PROFESSIONAL LIFE

The doctor must have his hours of recreation, or the cobwebs of fatigue will envelop his brain. The choice of amusements will depend upon location and surroundings. The country physician hunts, fishes, or runs down to the city for a change of scene; the city physician goes into the country for the same reason. In the country there is less of social gathering on account of the pressure of business or the remoteness of associates. In the larger cities the social features are more easily attained, and the spirit of brotherhood is maintained in spite of rivalry and competition.

Every physician should cultivate the social phase of his life, not for business, but for a broadening of his view-point. Social organizations among medical men are essential for the cultivation of good feeling, a closer acquaintance and a clearer understanding of the elements of personality.

In St. Paul a physicians' club has been formed for the purpose of social fellowship. A few congenial spirits gather together at the home of one of the members to discuss the various topics of the day, medical and otherwise, and to smoke, yarn, and eat of digestible and indigestible foods. No health-foods are permitted, and as the spirit of sociability advances stomach disorders are forgotten in the relaxation from mental strain.

In Vienna a coterie of men organized a "Wiener verein," and as the members were from the Twin Cities the first annual meeting and banquet was held in Minneapolis. Those of our readers who have studied in Vienna can readily imagine the pleasures of such a meeting. Reminiscences of Vienna student days from 1880 to 1904 brought out the social side of the old and young physician. Clinics and instructors were discussed, methods of study by day and night were rehearsed, and foods prepared after the manner of Vienna cafés were consumed. Meetings of this kind are doubtless a feature in cities, as well as in small towns, in other states. The result is a closer bond between men, and a larger and broader grasp of the hand which extends beyond the confines of a club.

If physicians would get together oftener outside of the medical societies they would be surprised to find what a large number of good men there are concealed in the medical profession. Physicians as a rule are modest and retiring, and they need to brighten their wits and expose their social qualities by gathering together to clear out of the perivascular spaces in the cortex the dust and congestion of medical mustiness.

It is not necessary to carry social gatherings to the degree attained by the ball of the house surgeons of the Paris hospitals, as described in the Press Publishing Company, as follows:

"It was a saturnalia of grimly grotesque surgical wit, in which all the horrors of the dissecting room and the operating table were caricatured and the latest discoveries in bacteriology were impersonated.

"The parade of cars representing the several hospitals was led by a procession representing Dr. Piot, submerged under a mass of terrifying microbes. Andral hospital showed Prof. Metchnikoff ladling out curdled milk as a specific for eternal youth. Lariboisiere represented the most famous doctors of Paris, each bearing emblems vividly depicting his specialty. The Enfantes Malades sent a procession of horrible deformities.

"The prize, however, was won by Necker hospital with a float entitled 'Entente cardiaque," which might have been inspired by the shades of Baudelare. In it a lord mayor's banquet and its awful consequences were shown in close

proximity to Petronius Arbiter opening his veins on a bed of roses, while an allegorized pleasure was suddenly transformed into death. Bishops and cardinals celebrating a most unorthodox 'purple mass' broke into chants for the dead, and the whole ghastly spectacle was of a character to give heart disease to any but those with strong nerves."

Such grotesque and gruesome functions could only occur in Paris, and are not particularly conducive to social advancement.

Doctors must be merry, or they would go mad, yet their merriment should be refining, in order that long acquaintance and good fellowship may last.

Occasional attacks of relaxation are beneficial. Frequent and unnatural excursions from professional life are debasing, and will not be tolerated by a suffering public.

CONTRACT MEDICAL PRACTICE

At the December meeting of the Hennepin County Medical Society a resolution condemning, and advocating the abolishment of, contract medical practice was introduced and passed, not unanimously, however, but by a substantial majority of the eighty voting members present at the meeting. It was evident from the discussion, before and after the resolution was adopted, that some of the practitioners were either afraid to approach the subject or were fearful of the consequences personally.

The contract service is more wide-spread than is generally believed, for men who are engaged in such work do not herald the tidings from the house tops for fear of competition, yet everyone will admit under pressure the dissatisfaction that accompanies this class of work. The custom has grown to such proportions that even practitioners who enjoy a large practice continue to treat patients for a nominal fee. A specialist in one of the large cities who is reputed to earn large sums each year still guards his old contract with a railroad company. He estimates that he receives about fifteen cents for each office visit or treatment from the railroad employes. As his specialty is a popular one (one that gives comfort and relief to irritable mucous membranes), the officers high in the company avail themselves of the contract fees. The result is the man who is abundantly able to pay a two dollar office fee is treated by a specialist for the same price that is charged the ordinary laborer. Such injustice creates ill feeling among physicians, and is decidedly unbusinesslike, yet the physician fears to give up his contract on the ground that someone else will gladly take his place.

There may be points in favor of the contract system for the patient, but the demoralizing effect upon physicians and their dignified relationship to the public is sufficient to offset any gain to a few individuals. The State Association has indicated the feeling of the profession, and expects its members and others who hope to affiliate with the profession, to air in every way the uplifting of standard measures to benefit the public, professional and laymen.

The system is bad from every standpoint, except the commercial savings of the corporations, and as the profession is belittled and underpaid, the sooner the custom is suspended the sooner will the rights of physicians be appreciated. It is far better to do less work, and receive a proper compensation, or to do charity work with a charitable spirit, than to work for fees that would be scorned by a hod-carriers' union. The man of merit will be appreciated and his services will be in demand, but the man who gives his services for a waiter's tip will never enjoy an enviable reputation.

No argument will justify the contract system. A fair recompense is absolutely essential. An unfair contract breeds discontent, and the man who voluntarily enters into an agreement based upon the present contract basis will some day regret his unfortunate position. His loss of dignity and the disdain which must follow, will lower him irretrievably in his profession.

It is safe to affirm that the contract physician is a loser at the end of his career from a professional, as well as from a commercial, point of view.

FOR BETTER PHARMACISTS

The wholesale condemnation of a profession for the short-comings of a few, or even of many, of its members may not be very just; nevertheless, every profession suffers from lay criticism of this kind, and it is perhaps equally just to have a profession suffer as it is for the profession

to expect exact and intelligent criticism from laymen.

The medical profession suffers severely, and we think very justly, from the crass ignorance of a large percentage of its members of elementary pharmaceutical knowledge. If it did not have a tragic side, we know of nothing that would be more comical than a selection of the prescriptions daily written by physicians, and sent to druggists for compounding; and compounded most, if not all, of them are, and taken into stomachs,—stomachs old and young, stomachs strong and feeble,—and with results only omniscience can discern.

Perhaps the remedy lies in educating the pharmacist as insurance against the evils medical men are committing. That is certainly one way out of the dilemma; and we cannot but commend the action of Messrs. Fairchild Bros. & Foster, of New York City, in establishing an annual scholarship (valued at nearly $300) for students of pharmacy in Great Britain and Ireland. The announcement says this is done in appreciation of the friendly relations that exist between the founders and the pharmacists of the United Kingdom.

There has always been a discussion among philanthropical and religious people as to which is of greater importance, home or foreign missions; and if the founders of this scholarship have decided in favor of the foreign, we shall not find fault, but we hope some other philanthropic house may take the side of home mission work. We need encouragement along the line of better education in pharmacy work, and whether it comes direct to the medical profession or goes to our assistants, the pharmacists, its value to the public cannot be overestimated.

Since the above was in type the profession has heard of the remarkable cases of omission, substitution, and adulteration discovered by the Illinois State Board of Pharmacy,—an act that is, or should be made, criminal.

Unless the profession has lost all confidence in drugs, and is willing and ready to make this announcement to the world, some stand must be taken upon the subject which will have influence with pharmacists and manufacturers. If a prescription cannot be filled as written, the sooner the end of making prescriptions comes the better.

REPORTS OF SOCIETIES

MINNESOTA ACADEMY OF MEDICINE

ARTHUR W. DUNNING, M. D., SECRETARY

The regular meeting of the Academy was held in the Commercial Club, St. Paul, Wednesday evening, January 4, 1905.

Vice-President Archibald MacLaren was in the chair. There were thirty members present.

Dr. Arthur J. Gillette read a paper entitled "Non-Tuberculous Diseases of the Spine." The subject was discussed by Drs. F. A. Dunsmoor, Parks Ritchie, A. Schwyzer, T. S. Roberts, Haldor Snévé, and by Dr. Gillette in closing.

Dr. Archibald MacLaren read a paper entitled "Procidentia, and Its Relationship to Pelvic Surgery." It was discussed by Drs. Dunsmoor, A. Schwyzer, Haldor Snévé, J. L. Rothrock, and by Dr. MacLaren in closing.

Dr. J. W. Little presented a specimen of stone successfully removed from the pelvis of the kidney.

Dr. H. B. Sweetser presented a specimen containing a pin embedded in a concretion which was removed from the appendix in a case which appeared to be a very mild appendicitis.

Dr. James S. Gilfillan, of St. Paul, was unanimously elected to active membership.

NEWS ITEMS

Dr. Christian Jelstrup, of St. James, has opened a private hospital.

Dr. George Grant, a recent graduate of the Illinois Medical College, has located at Wishek.

Dr. H. N. Rogers, of Farmington, was married last month to Miss Lydia Berry, of Minneapolis.

Dr. Thomas F. Rodwell, of Cass Lake, was married last month to Miss M. A. Holden, of Brainerd.

Dr. G. E. Grafton, of Hayward, Wis., was married last month to Miss Josephine Heyer, of Superior, Wis.

Dr. R. J. Phelan, of Chaska, has moved to Belle Plaine. Dr. Phelan graduated from the State University in 1903.

Dr. C. F. Coulter, of Wadena, who has been doing post-graduate work at Chicago for several months, has resumed his practice.

Dr. Isaac F. Seeley, who has had charge for several months of the practice of Dr. Cory, of Waterville, has located in Faribault.

Dr. C. H. Norred, of Minneapolis, is very low, and a few days ago it was feared that he would not live. His condition is now improved.

Dr. J. S. Kilbride, of Canby, has just finished a three months' post-graduate work at Chicago in diseases of the eye, ear, nose, and throat.

Dr. W. D. Kelly, of St. Paul, has been appointed surgeon of the Third Infantry, Minnesota National Guard, with the rank of major.

The citizens of Tomahawk, Wis., have formed an organization to conduct a health park for tubercular patients. Cottages will be built at once.

Dr. C. L. Codding, of Duluth, who has been seriously sick at St. Luke's hospital, St. Paul, is much improved, and will soon be able to take up his practice.

Dr. M. A. Burns, of Milan, and Miss Wilhelmina McKenzie, of the same place, were married last month. Dr. Burns graduated at the State University in '96.

Dr. D. A. Nicholson, who recently resigned from the staff of the St. Peter State Hospital, was married last month in Minneapolis to Mrs. I. K. Prescott, of Cincinnati, O.

Dr. F. A. Xanten, of St. Paul, was severely injured on Christmas eve by a fall on the sidewalk. He was taken to St. Joseph's Hospital, and at first it was feared his injuries were fatal.

Dr. Joseph B. Patrick, of Baldwin, Wis., died last month at the age of 52. Dr. Patrick was a graduate of the Western Reserve University, and was one of the oldest practitioners in St. Croix county.

The following are the officers for 1905 of the Cass County Medical Society of North Dakota: President, Dr. G. A. Carpenter; vice-president, Dr. C. M. Callander; secretary, Dr. P. H. Barton; treasurer, Dr. Paul Sorkness.

Dr. F. W. Maercklin, of Ashley, N. D., and Dr. H. P. Boardman, of Oaks, N. D., were parties to a double wedding last month. The brides were the Misses Anna Mabel and Martha M. Irwin, of Ellendale, in the same state.

The Blue Earth County Medical Society held its annual meeting last month, and elected the following officers for 1905: President, Dr. E. D. Steel, Mankato; vice-president, Dr. A. G. Liedloff, Mankato; treasurer, Dr. Lida Osborn, Mankato.

Dr. W. A. Norred committed suicide on the 10th inst., at his rooms in the Landour in this city. The act was caused by grief over the severe illness of his father, Dr. C. H. Norred. Dr. W. A. Norred graduated from the State University in 1902.

The Hennepin County Medical Society held its annual election last week. Dr. D. O. Thomas was elected president, Dr. A. B. Cates vice-president, and Dr. S. M. White librarian. The list of committees, etc., will be given in our next issue in the full report of the meeting.

The Goodhue County Medical Society met in annual session January 3d, and elected the following officers for 1905: President, Dr. C. N. Hewitt, Red Wing; vice-president, Dr. H. E. Conley, Cannon Falls; secretary, Dr. J. V. Anderson, Red Wing; treasurer, Dr. F. W. Dimmitt, Red Wing.

Mention is often made in this department of THE LANCET that the number of physicians in the Northwest who take post-graduate courses, at home and abroad, is so large as to be noteworthy. A Fargo paper of recent date says that this is especially true of that state, and it claims that few, if any states, show a larger proportion of such instances than North Dakota.

The Watertown District Medical Society met at Watertown, S. D., last month, and after listening to papers read by Dr. Hill, of Watertown, and Dr. Sherwood, of Deland, elected the following officers: President, Dr. R. F. Campbell, Watertown; vice-president, Dr. J. H. Crawford, Castlewood; secretary and treasurer, Dr. J. B. Vaughn, Castlewood.

Dr. J. H. McBride, formerly of Wauwatosa, Wis., is the medical director of the Southern California Sanitarium, which has just been opened at Pasadena, California. New and complete buildings, situated in a handsome private park, make the place very attractive. The institution will be conducted mainly for nervous patients, and cases of tuberculosis will not be received.

FOR SALE

A Bausch and Lomb microscope, with several objectives and oculars and other attachments and case, is offered for sale by the widow of a physician who recently died. The list price is $126.50, and the instrument is offered for $75. It is now in the possession of Prof. Thomas E. Lee, of the State University, and a full description of the instrument may be had from Prof. Lee or at the office of THE LANCET.

NORTHWESTERN LANCET

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PRESIDENT'S ANNUAL ADDRESS TO THE HENNEPIN COUNTY SOCIETY*

By C. H. Hunter, M. D.

MINNEAPOLIS

The profound understanding of men and things displayed in the Scriptures has ever arrested the attention of serious minds. The saying found there, "Which of you by taking thought can add one cubit to his stature?" was not spoken of man's mental growth. No one will doubt that by taking thought we can add immensely to the significance of our Society. Were a more specific warrant needed to justify the trend of this annual address it would be found in the second section of our constitution defining the purposes of our organization, to wit: "to secure good fellowship, the wider culture of the membership and an enlarged influence in the community." Consideration, therefore, of various methods of developing such purposes becomes legitimate matter of debate. Should the writer be so fortunate as to utter some thoughts common to other members and have the discussion of this essay continue from time to time till the debate shall eventuate in action, widening the common interest and activities, the fruition of his hope will be amply gratified. Nor would such action be inconsonant with the laws of growth. A live organization, no more than an individual, remains always the same. There is a lopping off here and a growth there, or death claims the changeless organism—even be it founded in the religious instinct itself, the most abiding part of man.

As it is the noble ambition of the Hennepin County Society to include on its rostrum every reputable practitioner in its territory, the broadest possible interpretation of these functions should be encouraged, so that each and every medical interest may feel itself protected, strengthened and growing, be it young or old, special or general, central or suburban.

Good will, it may fairly be said, we have conquered in recent years, preparing the soil for greater growth in other directions. It goes without saying that in an atmosphere of personal strife, suspicions, and antagonisms all growth is effectually chilled. If we were ever afflicted, we are rapidly forgetting, ready to march forward to harmonious music.

It is the glory of American polity that individual development is encouraged to the uttermost. Neither law, custom, nor opportunity expects the individual to await the initiative of the community. Rather, he is expected to leave as little as possible of affairs to the management of the whole. But every individual is not always at his best. Even if he were there would be ample opportunity for the exercise of the altruistic spirit in promoting those sociological interests that are general and essential for the progress of the community, and yet are the business of no individual. However, some are so constituted that they find their greatest pleasure in working for the general advantage, possessed physiologically with the altruistic motif that makes for the good of the race. The grounds for this feeling are equally valid, whether sanctioned by religious instinct or physiologic structure. Mr. Hubbard, in the Philistine, against which, by the way, one sometimes feels like protesting, observes that good people divide naturally into two classes: "Those who take the initiative and those who do as they are told." The latter, the blessed conservative, the

*Delivered before the Hennepin County Medical Society, January 9, 1905.

salt of the race, can be trusted to possess sufficient inertia to preserve from the machinations of the first.

When, then, we find our membership possessed of those who initiate, it is the part of sound progressive policy to encourage them and their projects with helpful doing and kindly criticism. The past two seasons have demonstrated that the normal increase of papers and discussions has outgrown the one evening per month allotted the work of the Society. The recent motion of Dr. Abbott urging the Executive Committee to secure one full uninterrupted evening for the program was timely. The crowding out of expected papers, or the cutting short of full, unhurried, and thorough debate, is not conducive to the fine tone of erudition that should naturally characterize the work of the meetings. With papers and readers always waiting, the committee must carefully guard this time. This can be done by making a sort of house of delegates of the committee relegating all the business matters to them for final settlement. To this plan there may be the serious objection, that it is not democratic. Or we could have a special meeting at the end of the month for full debate of business, for clinics and specimens, and such special papers as might be offered. These special meetings at the end of the month would naturally grow into a second regular meeting, as the normal, healthy, unforced growth of the Society should seem to demand, thus forestalling the weakening of division or undue specialization.

Forethought spent on the year's work would be found worth while. A skeletal program prepared during the summer interim and announced in printed form in September would give the ambitious, thoughtful, reading member time and opportunity to prepare for debate. Our proceedings would then attain that weight that follows adequate preparation. The proceedings of a discussion thus deliberately prepared would have a value peculiarly their own. It would naturally be worth reporting and preserving, which could be done without expense to the Society. A medical literature that cannot pay for itself in some way, to some one, is not what we are striving for. Papers thus carried long in the minds of their authors representing mature thought and given over to full, free, well-considered discussion, could not fail to give that dignity and seriousness to our meetings in which the gentle spirit of learning and wisdom thrives and attains its maturity.

Variety to this second meeting could be lent by encouraging delving among our book treasures.

Few of us know what we have been accumulating in our library. None of it is dead lumber except so far as it lies quite unused. While the drift of elementary education is away from book teaching to the study of objects in the laboratory and cases in dispensary and hospital, later acquaintance with the literature is indispensable to the erudite doctor. "Reading maketh the full man." Critiques on the older authors and their works, interesting features of their lives and methods, with admixture of reports on valuable things in the periodical literature gradually accumulating on our shelves, would furnish good, instructive, intellectual pabulum for one evening a month, and be an incentive to the young man to study and write during that waiting period that is the lot of all. The more alive this material is, the more apparent its value becomes.

Our library thus becomes not only the possessor of books and lore, but far more important, the purveyor and productive distributor of medical literature. The individual ownership of books and journals, the tools of our trade in a way, has become an oppressive tax on earnings. We are solicited on every hand. We are fearful of passing some useful reading. We may not possess all. Common ownership and use is one refuge. Early organization of effort in this direction would bring an advantageous escape from these too enterprising publishers.

There are few general functions of a medical society more distasteful than those connected with money matters. I am not aware of any society having undertaken any credit measures with patrons comparable to those of the various retail associations. These portions of the community have found it advisable to institute such measures for self-protection. We would find, I fancy, the profession loath to adopt such guild measures, though they may be prudent. However, a member has handed me a draft of a measure intended to lessen abuse of our time

by the impecunious sick and make more certain the meed for service done—long and more or less impatiently awaited. Should a committee, after looking over the field, find it not well occupied by private enterprise and recommend a measure that would effectually enforce the social discipline of debt-paying, we would feel like giving into their hands our escape from the burden of the telephone, the enforcing of the purity of drugs, the removal of the city hospital from politics, and some like functions that would properly belong to enlarged activities of the Society.

The functions so far considered are obvious and represent natural development. There remains a function that lies closer to my heart which, with your indulgence, I should like to speak of more at length. It needs no argument before medical men to show that the hospital is a coming institution. This social institution is recognized as vital to the interests of every considerable community for the proper care of the sick, and has become of great importance to every doctor in the earning of his livelihood. This is indisputably true of all operative work and of those cases that require elaborate diagnosis. As this need becomes recognized more by both laity and profession, and as the dread inspired by the dangers of herding, as the imperfect care that can be given the sick in boarding house, flat, or small home, by the overworked mother, appear—in fact, the more the modern hospital in equipment and nursing differentiates itself from a hotel for the sick the more the well-to-do and the rich are likely to seek it. Questions pertaining to our hospitals, then, are likely to have a livelier interest to the profession as a whole in the future than in the past.

There is hardly more than one of our hospitals that does not owe its inception to medical initiative—of one or of a group of physicians. But as a whole we have never assumed any interest in them. We have made no concerted effort to retain a voice in the governing body—which medical vote in the governing body, in the view of Burdett, the London expert, distinguishes progressive hospital administration. Good as they are, I doubt if we should really rest satisfied with any of them for long. They are not as luxurious as the rich care to pay for, nor as safe as both rich and poor are entitled to. The equipment lags behind our needs. Their capacity is already reached, so that should any genius develop a wide attraction or an epidemic sickness make its sudden demands, there would scarcely be space to house those that should naturally come to our city. Apparently a hospital situation is developing in our city which calls for action. As our training has given a sound knowledge of what is needed and we are directly interested, we might well assume, to a degree, the direction of a forward movement. We could at least discourage the entering of the field by any more imperfectly equipped weaklings, and encourage the concentration and union of those already in existence, for the sake of economy and efficiency. The care of the sick and injured is a tax on any community and should not be heedlessly and selfishly increased.

There is one particular in which we could be of the greatest help in the better maintenance of all hospital interests, and this shall be the crux of my essay. It is our plain duty to our city to organize the dormant benevolent spirit of the entire community and give it a direction hospitalwards, and interest a large number of everyday people in hospital questions. This has never been attempted in a sustained and effective way. As much as they may desire it, our hospital managers are able to do a mere bagatelle of charity work. As a matter of fact, they do a good deal perforce in the bad debts incurred, such as no superintendent can well avoid. From five to ten per cent of earnings are lost in this way to enforced charity. A ready computation would make this sum eighteen to twenty thousand dollars for the six hospitals of the city. As all our hospitals are run out of earnings, this leaves each management poor. If never so well disposed there is nothing ever in the treasury to maintain present equipment, much less to add to that already inadequate. Any regular annual growth is chilled. What progress is made comes by fits and starts as conditions become intolerable. The history of our hospitals has developed after this manner. Now, it would not be merely legitimate, but it would be a mark of good citizenship for this Society through a committee to organize an incorporated body for the assem-

bling and handling and distributing of a hospital charity fund—"a League of Mercy," if you will, of the benevolent, under the presidency of some well known philanthropic citizen. It should be represented in each precinct in the city by a vice-president, and membership extending from friend to friend, of whom sums down to one dollar are collected. An easy arithmetical calculation not only figures up in the one hundred and thirty-eight precincts of the city a goodly sum, but, more valuable yet, a large number of persons come to have a live and personal interest in hospitals, for one year and for many years. Hospital work by these small sums and this host of friends is lightened out of all proportion to the amount obtained. Superintendents, now niggardly and close by force of poverty, would present a normal annual growth, and doctors would not be obliged to appear ever and anon as solicitors for the bare necessities of hospital life. Experience for a number of years has proven this a workable scheme. In London, through a system of inspection and distribution of funds by hospital experts, many a medieval institution has been lifted into a modern hospital. Such a league, under carefully selected auspices and endorsed by a powerful medical society like ours, could appeal irresistibly to the philanthropic of the community. The need is real and not fancied, of personal portent to us all; the purpose noble, and worthy our effort. Let our Society then move forward and occupy a leadership naturally hers, remembering the lines,

"Nay, never falter; no great deed
Is done by falterers who ask for certainty."

A CLINIC IN THE NOSE AND THROAT DEPARTMENT OF THE UNIVERSITY OF MINNESOTA FREE DISPENSARY

By Robt. A. Campbell, M. D.

Clinical Instructor in Diseases of the Nose and Throat, University of Minnesota; Laryngologist and Otologist to City Hospital; and Nose and Throat Surgeon to Asbury Hospital

MINNEAPOLIS

Case 1

We have this little girl, seven years of age, here to-day giving the following history:

Healthy until three years of age when she had scarlet fever; upon recovery her mother noticed that she had difficulty in breathing through her nose; during the succeeding two years this difficulty steadily increased so that she came to breathe almost wholly through her mouth.

From her nose there was a chronic mucopurulent discharge, maximum in amount during the winter months, giving the effect of one long cold from October until May.

At the age of five, or two years ago, the mother took her to a surgeon who removed a mass of adenoids from the post-nasal space. This surgeon does careful and thorough work.

Why is she here to-day, and what does she complain of? She says that she cannot breathe through her nose; and her mother says she snores at night. We see that she is not well developed for her age; her facial expression is indicative of mouth-breathing; we notice a mucopurulent discharge from both nostrils, which has excoriated the skin. Her mother says her ears discharge intermittently.

After inspecting her nose we examine her nasopharynx with the finger, and find the cavity filled with soft adenoid growths. Why did they recur in this case after thorough removal under a general anesthetic two years ago? We look for, and find the answer in the nose. After wiping away the secretions and crusts about the nostrils and in the vestibules it is seen that the lower turbinates almost completely fill the nasal cavities on both sides. Gently touching these tissues with a tiny nasal probe we find them quite firm, indicating hypertrophy. Here, then, is the cause for the adenoid recurrence. It is hyper-

trophy of the inferior turbinates, with resultant obstruction to nasal breathing and mucopurulent discharge irritating the walls of the post-nasal space, causing congestion and hypernutrition.

We cannot hope to benefit this child without first restoring normal breathing space in her nose. This I have endeavored to do by the use of cleansing solutions and oily sprays and mild astringent ointments for the past six months, but without success. To-day I shall thoroughly cocainize the left side of her nose by gently placing in it pledgets of cotton soaked in a 4 per cent solution. I shall prevent hemorrhage during operation by mopping the surface of the turbinate with 1-1000 adrenalin solution. She is a brave little girl, and has perfect confidence in our statement that she will suffer no pain. Testing the anesthesia of the tissues with a sharp pointed probe shows that the nerves transmit no pain. Passing the wire of the snare around the anterior hypertrophy, it is encircled and cut off without difficulty. We rewire the snare, and remove a projecting portion farther back; then the posterior and lower hypertrophies in the same manner. We now note that there is a good space for air to pass through.

In this operation no bone has been removed, I shall pack the cavity with cotton saturated with a menthol solution to prevent hemorrhage, and have her return in two days for removal of the packing and a cleansing. I shall treat the opposite side two weeks from today in the same manner, and later advise the mother to allow us to remove the adenoids under ether; after which I trust she will breathe normally, be free from recurrent attacks of otitis media, and the dangers of a Schwartze-Stäcke operation, and will develop like other children, mentally and physically.

Case 2

The second patient to-day is this young man, aged 26; a teamster. He had scarlet fever and measles when a child, but has had no serious illness during the past fourteen years. He first came to this department of the dispensary last March, nine months ago, complaining of headaches over his eyes, which had been almost continuous day and night for the past three years, being more pronounced during the winter than during the summer months, and at times preventing sleep and requiring headache powders. He had inflamed eyelids, lachrymation, and obstruction to nasal respiration.

Three months previously examination in the eye department showed that his vision was 20-20, and his eyes practically emmetropic, and as he used his ciliary muscle very little, doing almost no near work, it seemed probable that his headaches were due to some other cause than eyestrain. However, he was given plus lenses of a fractional D. These he wore without any relief to his headaches.

Inspection of his nasal cavities last March showed greatly enlarged inferior turbinates on both sides occluding the nasal fossæ; normal middle turbinates; a very slightly deflected septum; and no excessive secretion. Palpation with the nasal probe showed that the inferior turbinate bones were much larger than normal, and the tissue over them hypertrophied. Under local cocaine anesthesia a partial turbinectomy on the right side was done with the scissors and snare, about one-third of the bone being removed. This gave him space for normal respiration on that side.

The patient tells us to-day that he passed through the summer very comfortably, having had very little headache, and enjoying free breathing through the right side of the nose. He now comes requesting us to perform the same operation on the left side. This we proceed to do, using a 4 per cent solution of cocaine as an anesthetic, and a 1-1000 solution of adrenalin as a hemostatic. I pass one blade of the strong nasal scissors between the turbinate and the outer wall; the other blade between the turbinate and septum; the inner blade being higher than the outer, I cut obliquely through the tissues and bone of the turbinate, and from before backwards to near the end. I then pass the wire of the snare around the cut turbinate; grasp its anterior end with forceps, and work the wire back to the posterior end; cut through the tissue and bone by tightening the wire, and so remove the cut portion in one piece. We get but a few drops of blood, as you see, and practically no pain in our operation.

We now pack the left nasal cavity with cotton saturated with menthol solution to prevent subsequent hemorrhage. This packing we will

remove in two days; afterwards treating the patient with cleansing sprays until he is well.

Case 3

This little patient, a girl of ten, it is plain to be seen, is of a lymphatic temperament. She is actually stolid. Such a child is not sensative to pain. It is almost impossible to get information out of the unintelligent mother as to her history or symptoms. We can see that she is a mouth-breather, and her mother seems to be trying to say that she snores at night. She has a typical adenoid expression. Inspection of the nasal cavities shows a normal condition there. The oropharynx shows three things of interest: first, the palate does not recede into the nasopharynx; secondly, a few pale follicular hypertrophies on the posterior pharyngeal wall; thirdly, a head of clear transparent mucus appears below the palate, as though pressed out from above,—three symptoms of adenoid growths.

With the rhinoscopic mirror in position, we get no satisfactory view of the region above the palate, and are therefore compelled to use the index finger. Inserting it behind the palate, we find the space nearly filled with soft adenoid growths. We take the child's temperature and pulse, and find them normal. The condition is explained to the mother, and because of the absence of "nervousness" and acute pain sense in the child, I advise an operation here at the present time, permission for which the mother grants.

We cleanse the nose and nasopharynx with an alkaline spray, and introduce a 4 per cent solution of cocaine on pledgets of cotton. Placing the child upright in the mother's lap, and instructing the latter to hold the hands tightly, and requesting one of the students to steady the head, I pass a Brandagee's forceps behind the palate, grasp the mass of adenoids, and remove it; then place the post-nasal curette in the cavity, passing it forward to the septum and pushing it upward to the vault, sweeping it backward several times removing any remaining masses. With a long straight curette passed through the nose, each side in turn, I gently scrape the vault. The child's head is released, and she spits out the blood. Hemorrhage ceases, as you see, in a few minutes, and the child is instructed to keep quiet in bed for twenty-four hours, and to come here every second day for a cleansing during the next two weeks.

Case 4

The next case is a child of six with adenoids. Her difficulty began after she had measles three years ago. She is of an entirely different temperament from the other child, being "high-strung" and "nervous." Upon our advice the mother will take her to the hospital, where she will be operated upon under ether day after tomorrow.

Case 5

The next case is one of tubercular laryngitis complicating pulmonary tuberculosis in a male Russian Jew. The diagnosis of his lung condition was confirmed by the microscopic findings. The larynx presents typical appearances of the preulcerative stage. There is a roughening of the cords, greatly infiltrated tissues about the arytenoid cartilages obliterating the eminences of the Santorini and Weisberg cartilages, forming pale rounded tumors overhanging the posterior ends of the cords and hiding one-third of them from view in the mirror. The mucous membrane over the upper edge and posterior surface of the epiglottis shows redness and swelling. He has almost no voice, due to the arytenoid swelling interfering with the action of the muscles that approximate the cords. He has no pain because there is no ulceration.

To the general therapeutics of the case we will add a soothing antiseptic liquid, a 1 per cent solution of menthol in liquid alboline, for him to inhale from an atomizer at home four times a day. He is advised to seek a warmer climate, such as is found in western Texas or southern California, for the possible retardation of the progress of his disease.

Case 6

The next interesting case is this girl, twelve years of age, sent here from the dental department for an operation for adenoids.

First of all, you will note her age—twelve years. Her mother says she has always been a mouth-breather, even when she was a baby. You notice her expression: the wide-open mouth, protruding upper front teeth, the drawn lines along

the side of the nose, the absence of fat over the maxillary sinus in front, the thin nose. All her features, except the eyes, are indicative of adenoids. Her eyes are bright and intelligent. We will ask her to close her mouth, and try to breathe through her nose. She does the latter with perfect ease. Her mother says she does not snore at night.

Inspecting the nose, we note a fairly straight septum, normal turbinates, no excessive secretions, and we can see through to the posterior wall of the pharynx. With a post-rhinoscopic mirror we obtain an excellent view of the post-nasal space, and find that it is very nearly devoid of any lymphoid hypertrophy. There is certainly not enough present to demand removal for any cosmetic effect upon the facial bones, which is the only consideration that lands her here six to eight years late. Now, what cause operated to give this girl such a homely face, her parents so much disappointment, and the child herself a minimum of prospective pleasure in life? Gentlemen, in my opinion it was adenoid growths. She undoubtedly had mouth-breathing from early infancy caused by them. This continued through childhood up to within a very short time ago, when they began to atrophy. Now they have about disappeared. The damage, however, has been done and cannot be repaired except in as far as the dentist's art goes. If she had come here six or eight or more years ago she would have been given the use of the space that nature intended for the passage of the air current during respiration, and she would have developed a symmetrical, if not a beautiful, face.

Case 7

Here is a new case today. This little girl says she is eight years old. She looks bright and intelligent. She comes alone, complaining of her nose running all the time. She says both sides run, but we see it is only the left side that is discharging. Inspection shows that the right nasal cavity and the nasopharynx and oropharynx are in a healthy condition. In the left nasal cavity we see inflamed mucous membranes, and a considerable quantity of yellow pus, which we trace up to its appearance between the middle turbinate and the outer wall. We know that this pus may come from the frontal sinus, the maxillary sinus, the anterior ethmoid cells, or the middle meatus itself. Let us see if we can get any help from transillumination. Darkening the room, and placing the lamp under the frontal sinuses, we see that each one is flooded with light. Placing the lamp in the mouth we see that the right maxillary sinus also is flooded with light, while the left one is not—it is absolutely dark. It is probably filled with pus that is discharging into the nose. We will investigate this case further day after tomorrow, when the child's mother comes with her, getting a definite history of her trouble, washing out the maxillary sinus through the ostium maxillare or introducing a small trocar through the inferior meatus of the nose should her history and further investigation warrant.

OBSERVATIONS OF A DOCTOR-PATIENT*

By C. E. McCauley, M. D.

ABERDEEN, S. D.

"O wad some power the giftie gie us
To see oursels as ithers see us."

For the past year I have associated with all kinds of medical people, good, bad, and indifferent; and, to a certain extent, I have seen the prayer of Bobby Burns answered.

A medical man looking at things medical from the outside must, of necessity, see them differently from what he sees them when he himself is engaged in the work, and especially will he see them differently when he is the object of the investigation. The things which most impress an active man pale into insignificance when he becomes the passive object of such activity. The rapid, brilliant, spectacular operation, the snap-shot diagnosis, the long list of titles, whether won by merit or graft, have little meaning for a man who feels that his life insurance may be

*Read at the Aberdeen District Medical Society at Aberdeen, S. D., September 20, 1904.

collected next week. Looking at things from a quartering viewpoint for so long, has perhaps left me a little cross-eyed; nevertheless, I have a few disconnected ideas that I want to talk about.

This is an age of hurry and rush, and we physicians fall in line easily, much to our own detriment, for, of all classes of people, a quiet, easy-moving manner is of most benefit to a physician. The Greek philosophers gave the palm to equanimity as the fundamental quality of success and human power, and it is no less true to-day than it was in ancient Athens.

The hurry habit hurts both physician and patient. The physician misses the little things, overlooks them, and his diagnosis is but partial; the patient thinks his case unimportant, and lets a serious malady go too far, or seeks another physician. The mental effect on the patient may be much greater than we think. I had various physicians calling on me, and I know they made or marred the day for me. I will mention two. One came dashing up to the door in a 20 H.-P. auto, with a toot that echoed and re-echoed up and down the Mississippi hills. He came down the hall like an express train, and into my room in a breathless condition, cried "Hello," and muttered something about how sick the fellow next door was, and out he went, saying good-bye from somewhere down the hall. The other gentleman came in unannounced, stepping softly and speaking in a natural voice. He stayed no longer than the first, but he was soothing and quieting. He said little, but seemed to understand and to make me feel that I was the principal object of his thought. He seemed to know just how I felt and to say,—

"I have eaten your bread and salt,
I have drunk your water and wine,
The deaths you have died I have watched beside
And the lives you led were mine."

In passing, I want to notice one man in particular. He is slow and methodical almost to a fault. He never looks at a patient unless that look can be a thorough one. He weighs all possibilities, and insists on all means being used to make his diagnosis sure. He never jumps at conclusions, and he takes his time to make up his mind; if the patient can't wait, he can go elsewhere. To see him use a stethoscope is a revelation: the patient's and his own stool are adjusted properly; he sits down in an easy position, places the stethoscope on the chest, closes his eyes and listens, first on one side, then on the other, and it seems that he will never finish, but when he is through you feel that he has seen the bottom. Of course, you will say the general practitioner can't go into things so thoroughly. I don't say that he can or that he can't, but the thorough, slow-going, positive fellows are the ones who are at the top.

Next a word about surgery and surgical methods: I am an ardent supporter of surgical treatment, for what shall it profit a man if he shall gain the whole world and retain his appendix? However, I do think that with many men the pendulum has swung too far, and they use surgery where they should not. In the older hospitals and clinics the slaughter of the innocents is something frightful. Every woman who has a pain anywhere below the clavicle looses one or both ovaries, and you can scarcely meet a woman over thirty who has not had some operation upon her genitals, and many of them will say that they are worse than before, and not a few of them are nervous wrecks, and date their breakdown from the time of surgical interference, whether from errors in diagnosis, in technique, in catgut, or what not,—something was wrong. We may be thankful that few of these cases spring from our work here. Surgical work here is young, and of necessity mostly emergency work, but as we grow older in surgery, we shall be able to avoid the sins of commission which older hospitals and clinics daily exhibit. It seems to me that a plea for more conservative surgery is in order, and to consider whether care in diagnosis keeps pace with our easy and safe methods of operating.

Does "cured" on a patient discharge-slip three weeks after operation mean cured three months or three years later? It is results that we are after, and when we don't get them, we become a by-word and a hissing to the laity. A man's bad results in medicine are soon buried and forgotten; his bad results in surgery are likely to be explained to twelve good men and true, who may forget the patient, but they will never forgive the doctor.

As I have observed, the technique of operating varies with each surgeon. Of course, the general principles are the same in all. I wish to notice

only a few points. Most surgeons are insisting upon a more thorough preparation of the patient about to undergo a major operation. The skin over the site of operation is not the only thing to be prepared; the kidneys are flushed out with large quantities of pure water; the skin is rendered more active by steam-packs and alcohol rubs; the bowels by salines and diet, the preparatory treatment lasting from three to five days, and it is claimed that this length of time can be taken off the time usually required in bed after the operation, and that very little sickness follows the anesthetic. One of old has said that it was not what goes into a man, but what comes out of him, that defiles him. These gentlemen would have us believe that it is neither what goes into nor what comes out that defiles, but what remains in him, and therefore they sweat and physic him.

Stitch abscesses have caused a lot of trouble with some surgeons recently. Some gentlemen claim it is the catgut, and one said catgut couldn't be sterilized. I watched him operate. He scrubbed very laboriously for twenty minutes in green soap, then in alcohol and bichloride, and, as an after-thought, took a plunge in carbolic acid solution, covered his head with a sterile cap, put on rubber gloves, after asking three nurses if the gloves had been boiled the required length of time; and then when he got a clot of blood on his fingers he wiped it off on his gown, just as a boy wipes his fingers on his "pants." I thought he needed a surgical conscience worse than he needed a sterile catgut. I was told afterwards that he had trouble in all his longer operations, no matter what sutures he used.

Another man washed his hands in soap and water. If bichloride was handy, he rinsed his hands in it, for a bluff, as he said, but after cleaning up he kept his hands where they should be, and it was said that he never had a stitch abscess. There is no question but some of the catgut we have been getting is vile, but I can't believe it is as much at fault as the bacteriological conscience of some surgeons.

The different antiseptics used are as varied as the men who use them, each having his hobby, but the men who use only soap and sterile water seem to be getting as good results as the others.

A wide difference exists as to the length of time a patient should remain in bed after a laparotomy. Some insist on two to four weeks, and a very light diet; one keeps them on liquids, others let the patient up as soon as he feels like it, say, in from five to eight days, and feeds them freely as soon as the anesthetic sickness passes off. The latter seems to have the best results.

The question of nutrition is one that I believe we are overlooking to great extent. "Light diet," says the doctor, and when pushed as to what he means, we find that it is avoidance of meat, especially pork. We tell our patients to eat well and get fat, which usually amounts to their eating large quantities of meat and beans, and coffee and pie, whether or not they digest any of them. I remember a gentleman in the Southwest, a consumptive, whose doctor had him on what he called a reconstructive diet, which consisted of a cup of cocoa before he got up in the morning, three heavy meals, and an egg-nog at ten, at three, and at bedtime, and a gallon of milk to be sandwiched in between meals and lunches. Nothing was said about what the "heavy meals" should be, so he ate any and everything as long as the quantity was great. It took all the poor fellow's energy to get rid of the waste products of his food, most of which had very little food value to begin with. I couldn't help but think, when he started on the trail, unmarked and endless, that if his doctor had read up a bit on diet and used common sense in his forced feeding, the boy might have had a fighting chance.

That this question will bear investigation is proved by the numberless health-foods on the market, many of which have an enormous sale, while few of them have half the food value of easily digested things which can be prepared in any kitchen. This question of nutrition is at the bottom of a great deal of our work. Many of the diseases which we treat with large doses of various kinds of "dope" would respond much more readily to proper food. We often think that a patient who is eating well and does not complain too much of pain in the stomach, needs no attention along that line, forgetting that what is in the intestinal canal is as much outside of the man as if it were on his skin. I believe there is no field in medicine where as much work is needed, and where as much may be learned to benefit ourselves and our patients, as in the disorders of digestion.

ST. MARY'S HOSPITAL

MINNEAPOLIS

COMPOUND, COMMINUTED FRACTURE OF PATELLA

IN THE SERVICE OF DR. C. D. HARRINGTON

The above radiographs, taken five years and three months after an injury to the patella, illustrate the result after using silver wire.



1. Silver wire in the patella 5 yrs. and 3 mos. after the injury.

The radiographs were taken with a 22-inch coil with ninety seconds exposure.

The patient, a young man, while riding down hill on a wheel, collided with a freight car. Among several severe injuries he received a compound, comminuted fracture of the left patella. I used silver wire in this case, as the wound was ground full of dirt, and we had good reason to expect suppuration. The bone was broken into eight or nine pieces. After enlarging the wound somewhat and removing the small pieces, the large pieces were brought together by passing the silver wire around them and through the tendons, and the wound was closed, drainage being left at the side for two days. There was



2. Degree of flexion ultimately obtained.

no suppuration. The silver wire can be easily removed at any time by using local anesthesia; but up to the present time, over five years, it has given him no trouble, and, as the radiograph shows, the motion is all that one could desire.

ST. BARNABAS HOSPITAL

MINNEAPOLIS

GUN-SHOT WOUND OF THE KNEE

IN THE SERVICE OF DR. A. E. BENJAMIN

Mr. T——, aged 30, was injured while out hunting by an accidental discharge of a shotgun in the hands of a friend. This friend was about three feet in the rear when the accident occurred. The shot, No. 8, passed directly through the left knee. The injured man was taken to the hospital as soon as possible, and arrived there about



Gunshot wound of knee two months after injury.

two and one-half hours after the injury. He was very weak from the loss of blood. The wound of entrance was directly back of the external condyle of the femur. It was about 2½ inches in diameter. The wound of exit was over the outer portion of the patella. This was much smaller, being about 1¼ inches in diameter. The shot had evidently missed the popliteal artery, as the circulation seemed to be fairly good in the leg. The wound was filled with splinters of bone, shreds of tendon and fascia, blood clots, and shot. The useless and disconnected fragments of bone were removed; also some of the shot and shreds of tendon. There was apparently an extensive injury to the joint and lower extremity of the femur, as the shaft of the femur presented in the posterior wound and the leg was adducted. The external ligamentous supports of the joint had been lacerated. The patella had been injured at the outer side, as bone fragments were removed from it. The fragments of the articular surface of the external condyle of the femur were allowed to remain, and the wound was packed with gauze. An extensive operation was not performed because of the shock and hemorrhage. Hypodermoclysis was employed. Next day the patient was in fairly good condition, although his pulse was 110 and very weak; temperature 101°. Saline enemas were given, and a great deal of liquid food and water was allowed. He gradually improved. On the fifth day the hemoglobin estimate was 35 per cent; white blood count, 4,800. On the ninth day hemoglobin was 52 per cent. The leukocyte count was 11,250. The white blood count gradually became normal, and the hemoglobin was about 72 per cent when he left the hospital three months after the injury.

An *x*-ray photograph was taken about two weeks after the accident, which illustrates the extent of the injury. An oblique fracture of the inner condyle of the femur and a gunshot wound to the external condyle is noted. A plaster-of-paris cast was applied as soon as the hemorrhage and excessive oozing ceased. An external splint for support was incorporated in the bandage. An operation was performed five weeks after the injury to remove the remaining shot and dead bone, and trim up the lower end of the femur. The serum from the joint cavity and some pus continued to discharge through both openings. By the use of carbolic acid and alcohol, the slight infection ceased. The discharge then became almost all of a serous character. Bone was deposited in the space between the fragments containing the articular surface of the external condyle and the shaft.

At the present time (3½ months after the injury) occasionally a little serum escapes from

the wound in front of the knee. The patient looks and feels well. There is some weakness of the limb with some abduction of the leg owing to the shortened external condyle. There is some motion of the knee. The patient gets about on crutches, but does not put any great pressure on the injured member.

The points of interest in this case are—

1. The extent of the injury.
2. The escape of the popliteal artery, as the shot were distributed as shown in the *x*-ray all around the vessel.
3. The mild form of infection.
4. The low percentage of hemoglobin from hemorrhage.
5. The ultimate restoration of the limb.

This case illustrates the necessity of saving all the bone fragments possible. It teaches us that the fragments will unite to contiguous bone if kept clean. Furthermore, it shows that an extensive injury of a joint may be followed by a movable and useful limb.

TWO CASES OF FOREIGN BODIES IN THE KNEE

Case 1.

In the Service of Dr. J. Clark Stewart

Mr. S——, aged 30 years, has always had robust health except for trouble in the right knee, which has annoyed him for several years. In 1900 the knee was sprained while handling heavy machinery, and since then the attacks of pain have been more frequent and more prolonged. Last year he wore a cast for some months with benefit. The attacks returned, however, and at the time of entering the hospital the joint had become chronically inflamed. No distinct movable body could be found.

At operation an incision over the inner aspect of the knee disclosed no movable body but a synovial membrane, which was greatly injected, roughened, and swollen. The semilunar cartilage on the inner side was displaced, and its thick edge acted like a foreign body in blocking motion of the knee. The semilunar cartilage was removed, and the joint closed without irrigation, the capsule, fascia, and skin being closed separately by buried catgut sutures, and a cast was applied.

There was no re-action, and after 4 weeks flexion was free in the joint, and lateral motion was decreased. He was able to walk easily by the sixth week.

Case 2.

In the Service of Dr. C. H. Hunter

Mr. ——, aged 18 years, has been troubled with a "catching" painful sensation in the left knee for ten years or more. Extreme flexion has been at times impossible. The joint has never been swollen, however, and the patient has been able to use it constantly by a little manipulation. No movable body could be made out in the joint until two weeks before operation, when on the inner surface one was felt to slip back. Three days before the operation, while hunting, he hurt the knee severely, after which a small movable body was easily palpable above the patella and at the inner side.

At operation the movable body escaped readily through an incision 1½ inches long on the inner side of the joint, together with about an ounce of cloudy fluid. The joint surfaces were congested. A plaster cast was applied from the thigh to the ankle.

CITY HOSPITAL

MINNEAPOLIS

A COMPLICATED CASE OF INTESTINAL OBSTRUCTION

In the Service of Dr. J. Clark Stewart

A. H——, aged 19, was operated upon September 5th for appendicitis. The operation showed that the cecum was twisted upon itself, and greatly inflamed. A few days after the operation a fecal fistula developed, presumably in the cecum, and this discharged very profusely for some weeks, during which time the patient's general condition improved and became fairly good. About October 14th the patient was taken with severe abdominal pains and constipation, with some distension of the abdomen. The bowels moved with active cathartics, but even this did not give relief from pain and distension.

On October 18th, the condition having gradually increased in severity, he came into my hands for operation. At this time the skin of the whole right abdomen was macerated and thoroughly soaked with fecal matter from the fistula, making a most unpromising field for an abdominal incision. There was moderate distension with considerable tenderness. There had been no passage of gas or feces from the fistula for about 48 hours, and the patient was in a great deal of distress.

In view of the dangers of a laparotomy through the infected abdominal wall, an attempt was made to relieve the obstruction by irrigation through the rectum and the fistula at the same time. This failed, so operation appearing necessary, a gauze and rubber tissue diaphragm was sewn to the skin half way between the fistula and the middle line, and turned down over the fistula and so fastened as to exclude the latter from the field of operation. The abdominal wall was then prepared as usual, and a four-inch incision was made through the right rectus. The small intestine was found adherent in every direction by dense adhesions, and a loop 12 inches long was found distended and paretic. This led down to the pelvis and towards the appendix into a dense mass of adherent gut. After a careful dissection with fingers and scissors, about six feet of the small intestines was freed from the general mass. The distended gut now collapsed, and obstruction was relieved, and although there were still present many dense adhesions, it was not deemed necessary to proceed further. The abdomen was closed, and the patient made an uncomplicated recovery, the highest temperature being 101° F. about 36 hours after operation, after which the temperature and pulse dropped rapidly to normal and remained there. There was perfect healing of the abdominal wound, which was kept entirely apart from the dressings of the fistula by the diaphragm mentioned above, which remained attached to the skin by the catgut stitches for about six days.

The patient was under observation until January 2d, at which time he was perfectly well, and the fistula had contracted to a very small point with slight discharge.

TWO CASES ILLUSTRATING THE USE OF MOORHOF'S WAX AS A SUBSTITUTE FOR GAUZE PACKING IN OPEN BONE CAVITIES

In the Service of Dr. J. Clark Stewart

Moorhof, of Vienna, for the past three years has been using a wax mixture as a permanent filling for bone cavities with great success. His wax is composed of iodoform 60, ol. sessami 40, spermaceti 40, and is fluid at a little above body temperature. It must be sterilized by fractional sterilization. Moorhof's technic is as follows: He first removes all diseased bone, and thoroughly cleanses the cavity so formed. Next he dries the cavity by heat from an electrical hot-air blast, and then fills it by pouring in the melted wax. The periosteum and soft parts are then sewed together over the wax without drainage.

In many cases he has buried large masses of this wax, and has obtained permanent healing, the wax being gradually infiltrated by fibrous tissue which later changes into bone, as shown by repeated serial skiagrams.

I have devised a different use for this wax, which has proved of the greatest value in those cases where I was formerly obliged to use gauze packing for many months. In infected bone wounds and in osteomyelitis cases with suppuration in the soft parts, the repeated packings necessary are extremely painful to the patient and irksome to the surgeon, and any relief from the tediousness of the packing technic must be of great benefit. For this reason I report two cases in my City Hospital service which illustrate the advantage of the wax in this class of cases.

Case 1.—A man, sixty years old, had been operated on repeatedly for an ununited fracture of the tibia, and since the last operation, some five months ago, a sinus had persisted.

Operation showed bony union of the tibia with an osteomyelitis of the lower fragment, which caused an abscess cavity in the bone about one inch in diameter. In addition there was a pressure necrosis of the skin from the splint, and an abscess on the outer side of the leg, communicating with the bone cavity. The abscess was opened, the bone curetted, and packed with iodoform gauze. The wounds cleaned up rapidly, but the packing had to be renewed every three

or four days and the dressing was very painful.

Two weeks after the operation I again curetted out the bone cavity, swabbed it with pure carbolic and alcohol and then with sterile water, dried it by the heat of a Pacquelin cautery held in the middle of the cavity, and poured in the liquid wax level with the skin, over which an ordinary gauze dressing was placed. The latter was changed every other day without disturbance of the wax, and the patient's temperature remained normal, and the wax in situ. Three weeks later, the wax having gradually disintegrated down to the level of the bone, it was removed, and the cavity again cleansed and refilled. During this three weeks the patient had had no pain from dressings, and the bone cavity had healed to less than one-half its original size. At this second filling the skin was loosened and sewed over the wax, and union was apparently good one week later.

Case 2.—This was a tubercular osteomyelitis of the base of the second metacarpal in a boy of 19. It was cleaned out and packed for one week, and then again carbolized and dried, and filled with wax, with the result that after three weeks of painless dressing the cavity was only one-third of its original size, and was again carbolized, dried, and filled with wax, and the skin sewed tight, with the result of prompt healing.

It would seem in view of these experiences that in Moorhof's wax we have a most useful means of rapidly and painlessly healing bone cavities of all kinds.

Where presumable sterility can be obtained, and anatomic conditions permit, wounds should be closed without drainage over the wax-filled cavities. When closure is impossible, the presence of slight infection is no barrier to the use of wax, and such use contributes to a rapid and comfortable convalescence.

CLINICAL MICROSCOPY

Conducted by George Douglas Head, M. D.

ESTIMATING LEUCOCYTES IN NORMAL BLOOD

The usual method of estimating the number of white cells in the circulating blood is by the use of the Thoma Zeiss apparatus. Hewes, in the Boston Medical and Surgical Journal, December 29, 1904, makes a report of his investigations to determine the accuracy of estimating leucocytes by counting the number in stained-blood smears. He used a Leitz 1-12 oil immersion and a No. 3 eye piece. Fields in the smear were selected where the spread was of such a thickness that the red corpuscles did not overlap. From 100 to 200 different fields in the smear were counted. The blood specimens were taken from medical students at Harvard medical school.

Hewes sought first to determine whether such a method would prove accurate enough for clinical purposes. He compared counts made by the Thoma Zeiss apparatus with his counts estimated by the smear-counting method, and found that the latter method was accurate enough for clinical purposes, the computation coming always within 2,000 of the actual count by the Thoma Zeiss apparatus.

In the second place he sought to establish a standard record of normal blood studied by his method. With his 1-12 Leitz immersion he counted a minimum of 41 white cells in 100 microscopical fields and a maximum of 90. The low counts he encountered in specimens taken in the forenoon, and the high counts in specimens taken in the afternoon. If, therefore, one should encounter a case in which 100 fields counted more than 90 leucocytes, he may be certain that a leucocytosis exists. In other words, if, in going over a proper smear of blood, one finds an average of one white cell or more in each microscopical field covered by a 1-12 Leitz immersion lens, a leucocytosis exists. Fifty leucocytes in 100 fields is about normal, and corresponds to about 8,000 cells per ccm. A record of one leucocyte per field means a leucocytosis of from 15,000 to 17,000 cells.

In this study Hewes also proved that the number of leucocytes in normal persons is less in the

forenoon than in the afternoon, a fact which one should bear in mind when making leucocyte counts.

The practical value of such a procedure as Hewes offers is apparent at once. If a standard of white cells per 100 microscopical fields can be established for 1-12 immersion lenses for all makes of microscopes, then the hemocytometer is not necessary, and one can approximately establish a count of leucocytes while he is examining a blood smear for megaloblasts or malarial organisms, or making a differential count. The uncertain element in the procedure, it seems to the writer, is the smearing of the blood. No two observers can smear blood just alike. Smears will vary always in their thickness. The thicker the smear the more leucocytes to the field. We should like to have seen some statement in the article as to the results obtained by different observers, each making his own smears and doing his own counting independently of the other.

The method at best cannot be accurate, but may do for a quick approximate estimate, where apparatus is lacking for finer work.

SALOMON'S TEST IN CANCER OF THE STOMACH

In the Deutsche Med. Wochenschrift, 1903, No. 31, Salomon described a test which he considered of value in the diagnosis of gastric carcinoma.

The test depends upon the fact that in the ulcerative process produced in most cases of cancer of the stomach a fluid containing albumin exudes from the surface of the ulcer. He bases his report upon the study of 22 stomach cases. Of these there were eight cases of cancer of the stomach, the remainder being patients with nervous dyspepsia, chronic gastric catarrh, gastroptosis, etc. The test is made as follows:

On the day before the test is made, the patient takes only liquid nourishment, and about 2 o'clock in the afternoon takes a meal free from albumin, such as coffee, tea or wine. The stomach is washed out in the evening with water. The next morning the stomach is carefully washed with 400 cc of the normal salt solution, the fluid being allowed to run in and out of the stomach several times. The wash-water is then tested for albumin by Esbach's test, and for nitrogen by Kjeldahl's method.

Salomon found an intense and quick reaction for albumin in all eight cases of cancer of the stomach. The test was negative in the cases of nervous dyspepsia, gastric catarrh, and gastroptosis which he examined. The nitrogen in the carcinoma cases always exceeded 20 mgr. in 100 grams of wash-water.

Inasmuch as the determination of nitrogen by Kjeldahl's method is a long and tedious chemical procedure the writer doubts whether this part of the test will be carried out by many clinicians. However, the examination of the wash-water for albumin is a simple and easy procedure, and may be of practical value, provided the albumin will appear early enough in the disease to assist in making an early diagnosis, and provided other stomach diseases in which ulceration occurs, such as round ulcer of the stomach, will not also give the test.

TWO CASES OF CHRONIC NEPHRITIS TREATED SURGICALLY.

J. A. Nydegger gives the histories of two nephritics treated by having one kidney decapsulated. The first patient did well for about three weeks after the operation, and then gradually became worse and worse and died three weeks later. The albumin did not diminish after the operation. The second patient was relieved of severe headaches, and the amount of albumin was decreased by the operation, so that he was discharged much improved. The author believes that two classes of patients must be recognized; one, those that are benefited, and finally cured, by decapsulation; two, those that are not benefited. His two patients represent the two classes. With regard to the way in which decapsulation benefits, he says that the autopsy of Case 1 showed kidney operated on to be covered with a rather dense, smooth, white scar tissue, which seemed to offer a poor means of transmitting an increased blood supply to the cortical substance. Perhaps we should look more to the theory that the decapsulation relieves internal cellular pressure and thereby allows the compressed cells to return to their normal relations and functions.—*Medical Record,* Nov. 5, 1904.

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ADVANCED STANDING FOR WORK DONE AT NON-MEDICAL SCHOOLS

Minnesota has been both foremost and most consistent of all the states in her efforts to raise the standard of the medical profession, although she may not always have been the most successful in her efforts to weed out quacks already in the field, but this has been due to the law. When, however, our legislature passed a law requiring students to take a full four-year course in medicine before being permitted to take the state board examinations, the enforcement of the law in spirit was safe-guarded by giving the Board of Medical Examiners proper power. This was done by making the board the judge of whether a medical college complies, in its course of study, with the spirit of our law.

It is well known that some of our leading medical colleges grant credits for work done in other than medical schools; and, no doubt, a few of the preparatory branches are taught in some non-medical schools even better than the same branches are taught in many of our medical schools. But the opportunity that this practice of granting credits, or advanced standing, gives for shortening the course in the medical school is so obvious that there is no wise course for a state to pursue other than to compel all medical work to be done in the medical school. Minnesota has done this, and what is the result?

In October last the State Board of Medical Examiners sent the following letter to the medical schools of this country and Canada:

Dear Doctor:

At the Oct. 14th, 1904, meeting of the State Board of Medical Examiners, the Secretary was instructed to respectfully call your attention to the following: The law regulating the practice of medicine in the state of Minnesota, states specifically that all candidates for license must present evidence of having attended four full courses, extending over four years, at a medical college—recognized by this Board.

At the October, 1901, meeting the following rule was adopted: "Graduates of medical colleges granted advance standing for work done at other than medical colleges shall not be eligible to the examinations given by this Board;

"Provided, that above shall not apply to such students as have been granted advance standing prior to September, 1901."

From now on, this rule will be strictly enforced.

As graduates of your school frequently make application for license to practice medicine and surgery in this state, it is desired that you notify this Board at an early date whether your college grants advance standing for work done at non-medical institutions.

By non-medical institutions, this Board refers to colleges of Literature and Arts, Science, Pharmacy, Dentistry, Veterinary Surgery, etc.

Kindly send us one of your catalogues.

Very sincerely yours,

C. J. Ringnell, Sec'y.

Many of the leading colleges replied that they do not grant advanced standing; some said they would abolish the practice; and some ignored the letter, and they, or, rather, some of their graduates, have come to grief. At the January meeting of the State Board two graduates of Rush, six of the College of Physicians and Surgeons of Chicago, and two or three others were conditionally permitted to take the examinations. These colleges were at once advised that certificates would not be granted their graduates, including those who had taken the January examination, until the Board was assured that such colleges do not grant advanced standing. The dean of P. & S. of Chicago replied, by telegram, that the matter was under advisement, and the dean of Rush wrote that the subject would be taken up at the annual meeting of the trustees on the 17th of January. Up to the present writing not a word has been received as to the action of either of these two colleges.

The Board of Medical Examiners of Minne-

sota is simply complying with the law as interpreted to them by the attorney general. Let us, then, ask, Is the law right? Are two colleges of the high standing of Rush and the P. & S. doing right in their apparent opposition to our law? The answer to each is simple. If a four-year course as a requirement to admission to practice is justified, surely such course should be taken either under medical men or under their supervision, and this can safely be done only in the medical college. Rush and the P. & S. should refrain from doing anything which, though in itself and in their hands is all right, is capable of great abuse in the hands of other colleges.

The Lancet would not take so serious a view of this matter were we not aware of great abuses that can be practiced, if indeed they are not already practiced, under this power to grant advanced standing for work done outside of the medical college.

We commend the course pursued by our State Board of Medical Examiners, and we feel confident that their efforts to raise the standard of the men coming into the state will bear rich fruitage.

WHAT MAKES A CITY?

Answer this question as you will, the ultimate cause is found in the "push" of the men who shape the policy of the various trades and professions of the hamlet, the village, the city; but enterprise will never increase trade and population unless it be felt, and to be felt it must be known. Here is the opportunity for the trade and profession journal. Minneapolis has 120 such periodicals, the largest of which has a circulation of 300,000.

Daily, weekly, and monthly these journals go to all parts of the world as heralds of the opportunities Minneapolis offers to enterprising men and women; and the result is so manifest that the most optimistic wonder at the city's growth, and this wonder was never greater than at the end of the year just closed.

But we started out to say a word about one of these journals, The Northwestern Miller. Its holiday number contains 256 pages double the size of the ordinary magazine page. More than a score of its illustrations are full page in size; and in beauty of design and printing they are unsurpassed by the handsomest work of our great monthlies, which are to-day the wonder of the world.

The text of this issue is in keeping with this wealth of illustration, and together they make a journal well worth the selling price, $2.00 a copy.

Can anyone compute the value of The Northwestern Miller to Minneapolis? Can any advertiser in such a journal say his advertisement does not pay? Perhaps he can if the estimate be in the amount of mail-orders received, but great enterprises are not built up in that way.

We may well feel proud of The Northwestern Miller, but we should recall, once a year at least, that it is not self-made: it has an editor, William C. Edgar.

Due credit is all the credit needed by the makers of the Minneapolis trade and professional journals.

IMPORTANCE OF VACCINATION

The recent outbreak of smallpox in Montana, and the inability of the health officers to control or suppress the epidemic, is the strongest evidence for protection by vaccination. Dr. H. M. Bracken, in a paper on the "Control of Smallpox," urges physicians to educate the people anew on the subject of vaccination. Until the public understand that vaccination is more protection than isolation the responsibility of epidemics must rest upon the people themselves. The history of epidemics and their control by vaccination is familiar to physicians, but the laity still are inclined to skepticism. The faddists who try to think they believe that vaccination does more harm than good, are not so boisterous as they were a few years ago. Many of them have been removed by smallpox, many have become alarmed for their own safety, and a few have been converted by valuable object lessons. A large number remain who obstinately adhere to their delusions, and who are capable of delaying the only true means of protection from smallpox.

The present methods of preparing vaccine are so comparatively free from harm that every physician should demand the vaccination of every infant or child when there is a suspicious case in the vicinity. The immunity that follows successful vaccination in childhood is the best safeguard against epidemics, and, as Dr. Bracken

says, the danger from isolated or occasional cases is reduced to the minimum. The necessities for quarantine are lessened with early vaccination among the young. If vaccination were made legally compulsory there would be no epidemics, and smallpox would be stamped out in a few years, certainly within two decades.

From a commercial point of view compulsory vaccination would pay, for business would not be interrupted and expensive methods of quarantine would be needless. The carelessness displayed during mild epidemics by the public means great expense when epidemics are serious. No one can foretell how severe an epidemic may become.

From 1899 to October 1, 1904, Minnesota had about 25,000 cases of smallpox with nearly 200 deaths. The large number of cases was the outcome of lax vaccination methods and the mildness of the epidemic. Some day the epidemic will spread with rapidity and furor, the people will hasten to the physician for protection, and the lesson will make an impression—for a time.

Until the public thoroughly understand the dangers of smallpox, and the safety of vaccination, the physician must continue the campaign of education. Compulsory vaccination is neither a hardship nor a danger, but an epidemic of smallpox is both.

REPORTS OF SOCIETIES

HENNEPIN COUNTY MEDICAL SOCIETY

F. A. Knights, M. D., Secretary.

The annual meeting of the Hennepin County Medical Society was held January 9, Dr. C. H. Hunter, president, in the chair.

The application of Dr. A. E. Johnson, Hamline, 1903, 2408 Central Ave., was read and referred to the Censors.

The Censors reported favorably upon the names of Dr. C. E. Henry and Dr. H. C. Arey for membership, and Dr. P. M. Hall for reinstatement, and upon ballots they were declared elected to membership. The applications of Dr. M. A. Kiefer, U. of Minn., '04; Dr. Geo. H. Coffin, Hamline, '04; Dr. Arnt E. Ofstad, Hamline, '04; Dr. L. Joseph Coria, U. of Minn., '04, and Dr. Geo. D. Crossette, U. of Minn., '04, all hospital internes, for associate membership were read and referred to the Censors.

The Secretary-Treasurer moved that the Board of Censors be instructed not to consider, hereafter, any applications for membership not accompanied by the initiation fee of three dollars.

Dr. C. H. Hunter then delivered the annual address, the subject being "Some Suggested Functions of the Hennepin County Medical Society."

The election of officers then took place, and the following named gentlemen were declared elected: President, Dr. D. O. Thomas; vice-president, Dr. A. B. Cates; librarian, Dr. S. M. White; executive committee, Dr. C. H. Bradley, Dr. J. W. Bell, Dr. Geo. G. Eitel; board of censors, Dr. R. J. Hill, Dr. W. B. Pineo, Dr. J. C. Litzenberg, Dr. Geo. D. Head, Dr. J. D. Simpson; trustees, Dr. H. H. Kimball, Dr. Edwin Phillips, Dr. W. A. Hall, Dr. G. C. Barton, Dr. R. J. Hill; delegates to state association, Dr. A. W. Abbott, Dr. F. A. Dunsmoor, Dr. G. G. Eitel, Dr. D. O. Thomas, Dr. A. B. Cates; alternates, Dr. J. W. Little, Dr. L. A. Nippert, Dr. C. G. Weston, Dr. H. B. Sweetser, Dr. A. J. Murdock.

Dr. Hunter then resigned the chair to Dr. D. O. Thomas, who made a brief speech of acceptance.

Dr. Thomas, in accepting the nomination, said in substance:

I cannot take the chair without expressing my appreciation of the honor you have conferred upon me. Since your action did not originate in any aspiration or candidacy on my part, and since I possess no special fitness for the position, I am more gratified by the unanimity of your action than by the wisdom of your choice.

As a rule we are more deeply touched by the manner a favor is extended than by the distinction involved. In social life the true flavor of culture and urbanity fills the occasion with only sweet thoughts more by the way a tribute is expressed than by the consideration bestowed. And even in our own profession the technique often elicits more admiration than the result. At this juncture I could wish that the subject of your choice were more worthy of your technique.

While your unanimity of choice doubtless was

due largely to my membership in the society of nearly twenty years, and some social affiliations, it is natural for me to see in your kind feeling an intention to recognize my honest endeavor to stand shoulder to shoulder with the profession. And while I know myself too well to believe that your tribute implies more than that I am in the procession with my face in the right direction, the harmoniousness of your action is very gratifying as it enables me to count you all as my friends.

While I appreciate all friends, and esteem the opinion of all good men, there are no friends whose good opinion I value so highly as those of the medical fraternity, and my loyalty to the profession has made me ever ready to sustain an honorable practitioner, even if I have to sacrifice my most intimate friend in lay circles.

I have always tried to be loyal to the Hennepin County Medical Society, and have regarded it of more value to me by far than any other society to which I belong. Its excellent contributions and able discussions cannot fail to have an educational value, consequently it affords me great pleasure to have the honor to serve the Society during this, the most prosperous, time in its history. I shall do my utmost to maintain its hight tide of prosperity, and to promote the spirit of good fellowship in the profession.

I shall confide that the generosity which prompted you to confer this honor upon me will also leniently regard all my shortcomings. Even if I am not equal to some in mental alertness I shall endeavor by a slower pace to arrive at unbiased and just decisions, and shall do my utmost to prove myself worthy of the honor you have bestowed upon me.

The society then adjourned.

NEWS ITEMS

Dr. George Moffat has located at Donnybrook, N. D.

Dr. M. A. Desmond has moved from Aitkin to Eagle Bend.

Dr. John Williams has a broken arm as the result of a runaway.

Dr. George C. Gilbert, of Grand Rapids, has moved to Cass Lake.

Dr. W. D. Donaher of Park City, Utah, has moved to Salt Lake City.

Dr. O. M. Haughan and Dr. A. C. Baker, of Fergus Falls, have dissolved partnership.

Dr. J. H. Martin has been driven out of Centerville, S. D., because of a family scandal.

Dr. J. R. Nannestad, of Bricelyn, is in Chicago taking a post-graduate course in surgery.

Dr. Arthur Kahala, who has been associated with Dr. Quinn, of St. Paul, has located at Mentor.

Dr. J. B. McGaughey, of Winona, has been reappointed a member of the State Board of Health.

Dr. Frank W. Cottom, a recent graduate of Jefferson Medical College, of Philadelphia, has located at Nassau.

Dr. M. A. Heffelfinger, of Washburn, N. D., has become associated in practice with Dr. F. R. Smyth, of Bismarck.

Dr. Harry Crawford, of Brookings, S. D., was married last month to Miss Mary E. Madden, of Castlewood, S. D.

Dr. H. H. Healy, of Grand Forks, N. D., has been appointed superintendent of the North Dakota State Board of Health.

Dr. Thomas A. Pierce, a homeopathic physician of Winona, and one of the oldest practitioners in the state, died last month.

Dr. Augusta F. True has moved from Lismore to West Concord. Dr. True graduated from the State University in '94.

Dr. H. C. Leonard, a homeopathic physician, who has been farming at Pine Knoll, has resumed practice and located in Duluth.

Dr. Ovide Martel, formerly of St. Paul, is conducting a hospital at Young America, of which he is making a marked success.

Dr. C. W. Wilkowske, who graduated from the homeopathic department of the State University, last summer, has located in Faribault.

The Mennonites in the vicinity of Mountain Lake have formed a corporation with a capital of $25,000 for the purpose of building a hospital.

Dr. S. O. Kron, of Enderlin, S. D., has sold his business to Dr. Gerrish of that place, and will move to California. Dr. Kron is a graduate of Hamline.

Dr. Garrett Murphy, who has practiced for a number of years at Garden City, committed suicide at Pine River last month, where he had recently located.

Dr. G. M. F. Rogers, of Buffalo, was operated upon at St. Barnabas last month by Dr. G. C. Barton. He is much improved and will soon resume his practice.

Dr. H. O. Schaleben, a graduate of the State university, now practicing at Lake Benton, was married last month to Miss Gertrude Ramsland, of Sacred Heart.

The local paper of Leonard, S. D., says a physician is needed at that place, and adds that the country surrounding Leonard will give a good practice to a good man.

Dr. J. M. Burnside, of Highmore, S. D., was married last month to Miss Jessie May McDonald, who has been prominent in educational circles of South Dakota and Wisconsin.

Dr. E. L. Cheeney, of Duluth, has been appointed acting assistant surgeon in the public health and marine hospital service, in place of Dr. S. H. Olson, who has left Duluth.

Dr. F. D. Brandenburg, of Faribault, who formerly practiced in Mankato, has decided to return to the latter city. He will be on the surgical staff of the new Lutheran hospital.

Dr. A. J. Stone, of St. Paul, is surgeon-general on the staff of Governor Johnson, and he will fill the position admirably, having had experience in this position on Governor Lind's staff.

Dr. G. J. Hanley has returned to Cass Lake to resume a very successful practice. He has had an extended course at Johns Hopkins and other eastern hospitals, and spent six months in Berlin.

It took a jury five minutes to acquit and completely exonerate Dr. R. T. Germain, of Barnesville, Minn., who was charged with administering poison to a confirmed inebriate who died under his care.

Dr. A. E. Spalding, of Luverne, is at the head of an organization to build a hospital in that place. The plans for a two-story building have been drawn, and work will soon be begun on the structure.

Dr. Christopher Graham, of Rochester, has been appointed a member of the State Board of Health, in place of Dr. Charles H. Mayo, who declined reappointment because of lack of time to serve on the board.

Dr. W. H. Young, who has been an interne for the past six months at St. Mary's Hospital, Rochester, has located at Munich, S. D. Dr. Young is a graduate of the Physicians and Surgeons' College of Chicago.

Dr. N. S. Tefft, of Plainview, died on Jan. 21, at the age of 74. Dr. Tefft was the oldest physician in Wabasha county, and had practiced in Plainview since 1856. He graduated from the Electric Medical Institute of Cincinnati in 1852.

The Morrison County Medical Society met last month in annual session at Little Falls, and the following were elected officers for the current year: President, Dr. O. C. Trace; vice-president, Dr. C. F. Holst; treasurer, Dr. N. W. Chance, all of Little Falls.

The Washington County Medical Society met last month at Stillwater and elected the following officers for the current year: President, Dr. T. C. Clark; vice-president, Dr. G. N. Watier; secretary and treasurer, Dr. F. G. Landeen, all of Stillwater.

The Aberdeen District Medical Society met at Aberdeen, S. D., last month and elected the following officers for 1905: President, Dr. W. A. Kriesal, Milbank; vice-president, Dr. C. E. McCauley, Aberdeen; secretary, Dr. E. J. Clemons, Aberdeen; treasurer, Dr. E. O. Miller, Aberdeen.

The Upper Mississippi Medical Society met in Staples last month, and the following were elected officers for 1905: President, Dr. J. G. Millspaugh, Little Falls; vice-president, Dr. J. A. Thabes, Brainerd; secretary, Dr. Chas. F. Coulter, Wadena; treasurer, Dr. Paul C. Kenyon, Wadena.

At the January examination of applicants for certificates to practice in North Dakota, the following successfully passed and were granted certificates: Dr. B. E. Lord, Glenburn; Dr. William Robertson, Russell; Dr. G. A. Matthews, Dresden; Dr. C. B. Lewis, Fargo; Dr. C. J. Montgomery, Winnipeg, and Dr. J. C. Dillon, Fargo.

The Southwestern Minnesota Medical Society met at Windom last month and elected the following officers for 1905: President, Dr. F. M. Manson, Worthington; vice-president, Dr. C. C. May, Adrian; secretary-treasurer, Dr. H. D. Jenckes, Pipestone; Dr. Lou M. Gerber, of Jasper, and Dr. J. A. Schultz, of Dundee, were elected to membership.

FOR SALE.

A sixteen-plate Brunsell static machine, including fluoroscope, Crookes' tube, electric motor, cautery transformer, etc. The machine and attachments are in perfect condition and cost $300. It will be sold cheap for cash. Inquire of Dr. C. M. Oberg, 201 Globe Building, Minneapolis.

FOR SALE

A Bausch and Lomb microscope, with several objectives and oculars and other attachments and case, is offered for sale by the widow of a physician who recently died. The list price is $126.50, and the instrument is offered for $75. It is now in the possession of Prof. Thomas E. Lee, of the State University, and a full description of the instrument may be had from Prof. Lee or at the office of THE LANCET.

NORTHWESTERN LANCET

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THE INDICATIONS FOR THE GOITRE OPERATION, AND ITS TECHNIQUE, WITH REFERENCE TO THIRTY-SEVEN OPERATED CASES*

By Gustav Schwyzer, M. D.

MINNEAPOLIS

Surgery of the thyroid gland dates surprisingly far back. Woelfler, who made a thorough study of its history, found that Galenus, and even Celsus, reports such operations. In the middle ages we find very few data about this subject. However, in the 17th century the aspiration of cystic goitres was done by numerous surgeons, and already two hundred years ago Johann von Muralt, a Swiss surgeon, made a successful goitre operation. In the beginning of the 19th century partial excisions began to be done here and there, and after the year 1850 were gradually taken up by some leading surgeons, such as Bruns, Billroth, Rose, etc. The operation even then was done without any sufficient knowledge of the physiology and pathology of the gland. It was suddenly commanded to halt in the years 1879 and '80, when the Swiss surgeons Reverdin and Kocher became aware of the most pitiable condition into which the patients fall, when their thyroid gland has been totally excised. Kocher described these symptoms with especial care and keen observation, and named the affection cachexia strumipriva, or thyreopriva. Modern surgery has taken advantage of these all-important facts, and avoiding these dangers has taken almost full possession of the diseases of the goitre by restricting its operations to only partial removal of the gland.

The first knowledge of the function of the gland as to its internal secretion was given us by the physiologist Schiff of Geneva, which gradually led up to Murray's discovery of the physiological action of thyroid gland substance if taken internally. Physiology in this way assisted surgery, as the indications for goitre operations became more definite, and with the help of internal thyroid medication surgery was allowed to stretch its limits, as in malignant diseases.

In order to arrive at strict indications we must have an exact history and a detailed knowledge of the size, shape, location, consistency, and the relation of the gland to the neighboring organs in each case. This knowledge can be gotten principally from an exact palpation, which is best done with the two thumbs while the rest of the fingers steady the hands to the neck of the patient. It is furthermore necessary to put down the findings in a picture. I may mention that no goitre examination is complete without an exact laryngoscopical status. In going over the different kinds of goitres in regard to their operative indications, I will mention first the most frequent and important ones, that is the benign forms which produce pressure symptoms. The operation is indicated in these cases on account of serious dangers of different kinds which arrive from such pressure.

We may find a compression of the trachea from front or the side. The trachea at such a place is softened, the cartilage usually degenerated in the myxomatous sense. The danger in such a case may come in different ways. In one case we have a marked and practically constant dyspnea; in other cases there occur sudden, most frightening attacks of asphyxiation by collapse of the softened trachea, while again in a

*Read before the Hennepin County Medical Society Dec. 5, 1905.

third group of cases the pressure upon the trachea becomes especially dangerous through pulmonary complications.

In the first one of these complications the low goitre voice with its characteristic harsh, gutteral sound, is usually striking. The patient tells us that he easily becomes short of breath at the least exertion. Very often voluntarily he adds that in bed he can only lie in a certain position in order to have free respiration. Some have to lie with the head slightly elevated, others find comfort only in a horizontal position. Sometimes, without knowing why, the patient wakes up suddenly with a choking sensation, and has to sit up straight in order to regain full breath. Such choking spells are of very great importance, because it is well known that the patient may suddenly die in the attack.

All goitre patients with compressions of the trachea are more susceptible to certain lung troubles. A bronchitis cannot take its speedy course of healing, and thus becomes inclined to turn into a chronic trouble, as long as the lumen of the trachea is not free. Some cases of pneumonia may directly prove fatal, when the respiration finds itself a pronounced obstacle. Many a goitre is only discovered by the patient or the physician, and its discomfort or seriousness is only recognized at the time of an arising lung trouble.

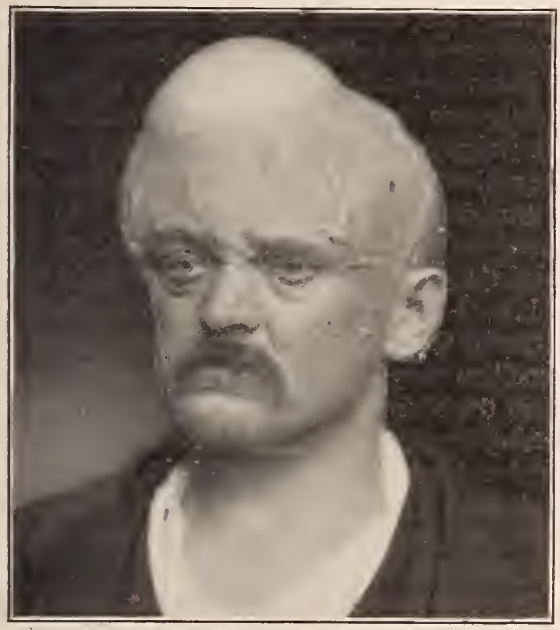
Up to now we have only considered pressure upon the trachea, pure and simple. Often, however, it is combined with a pressure upon the recurrent laryngeal nerve causing partial paralysis of the corresponding vocal cord. This adds to the dyspnea. If in such a case an inflammation occurs in the larynx the goitre can become of greatest danger at any time. The swollen mucosa of the larynx may reduce the already narrowed space between the vocal cords to a minimum, the exchange of air becomes insufficient, and the patient feels choked. Pronounced cyanosis in the face indicates imminent danger, which can no longer be averted unless the trachea can be incised, and a canula inserted. Such an operation is highly difficult in a bad goitre case, even sometimes impossible in the most routined hands. Are we therefore not fully justified in convincing such a goitre patient with any of these pressure symptoms of the necessity of an early operation?

A goitre may exist for years without ever having caused any serious discomfort, but its harmlessness may suddenly disappear. The patient may have gone through a typhoid fever, or may have had a sore throat for a few days only, and the harmless looking lump on the neck begins to pain. At first there are no visible signs of an inflammation. The temperature rises rapidly, the deglutition as an important symptom becomes painful, the findings in the mouth and throat are negative. The pain in the neck is, however, very soon unbearable, while the general symptoms often become rapidly alarming. Soon the skin of the goitre is edematous and red. The diagnosis of strumitis is certain, and surgical interference is needed. It may consist of simple incision and drainage, or, especially in nodular goitres where necrosis easily takes place, the incision may have to be followed by a partial removal of the gland.

In going over to the malignant form of goitres it is plain that where surgical help is possible it is indicated. The operative results are not very satisfactory as yet. The difficulty lies, as usually with carcinoma, in an early diagnosis. Kocher outlined the picture of the beginning carcinoma, which is so easily taken for a subacute or chronic strumitis. Where, in more advanced years, a goitre of old standing begins to grow and where at the same time slight but rather constant pains occur in it, a malignant growth becomes probable. A slight fever should not be considered as speaking for an inflammatory process because sub-febrile temperatures are a usual occurrence in cancerous degeneration of goitre. An operation ought to be promptly decided upon long before the goitre becomes immovable or before cachexia appears. Extensive extirpation is of course needed and with the help of thryoid feeding even complete extirpation may be risked, if the case apparently requires it.

But the pathological anatomy tells us of cases of malignant growths in goitre, with a generally negative clinical history. The patient had a goitre of many years' standing, but never suffered from pain in it, nor did he ever notice any increase in the size of the neck. He may seek help for some growth on one of his bones, preferably on a flat bone like the sternum, skull, etc.; that is, he comes to the doctor on account of a metastatic growth, the primary origin of which is perhaps

very hard to detect in the thyroid gland, and may be much smaller than the metastatic tumor. The decision whether to operate or not in such a case is difficult and not quite settled at the present time; however, excision of the primary tumor may be done, and was done in such cases, in order to prevent further metastases. The slow growth of such secondary tumors was the reason for favorable results in the few reported cases of operation upon these metastases. It may further be stated that metastatic growths appear sometimes to be more manageable after removal of the primary tumor. I have excised such a cancerous struma of the size of a hen's egg in a man who had very large metastases on his



Struma carcinomatosa.

skull. There is no deformity of the neck plainly noticeable in the picture. This is due to the comparatively small tumor, which is deeply situated to the left of the trachea.

It remains for us to mention the exophthalmic goitre. In the "Grenzgebiete der Medizin und Chirurgie" (9th volume, 1902), Kocher has proved that three-fourths of all his 59 operated cases were cured. He makes it clear to us that a struma vasculosa, which is never lacking in Graves' disease, is a condition *sine qua non*. If this constant symptom, the vascular condition of the struma, is corrected by the operation, a cure will be certain.

In order to do justice to other ways of operating for this disease we must mention that Jaboulay has introduced the resection of the sympathetic nerve and its 2d and 3d ganglion.

He found a number of followers—the most ardent defender of the operation became Jonesco of Bukarest, who indeed obtained good results. His assistant Balacescu published 14 cases with nine cures. All his cases showed a marked improvement. But not sufficient time having elapsed since the operation, we are not allowed to decide to-day whether we have to do with permanent cures. From the physiological standpoint we can say that this very difficult operation is of more destructive nature than the operation on the goitre gland itself, destructive because the resection of the sympathetic nerve means nothing less than destroying for good a part of the most complicated nervous system. In fact, it is considered by the majority of the surgeons that the standard operative procedure for exophthalmic goitre is upon the goitre itself.

Should we operate for an enlarged thyroid gland for cosmetic purposes? First of all, it should be mentioned that the diffuse, soft hypertrophy in adolescent people is a condition which is usually best not operated upon, as treatment with iodine or thyroid extract gives good results. The swelling often disappears to the greatest extent, even spontaneously after the years of growing are passed.

From these simple, diffuse, and soft hyperplasias of the entire gland are strictly to be differentiated the nodular forms. They represent a distinctly pathological condition. At the same time they produce more circumscribed, and therefore more visible and irregular, enlargement of the neck. The location of such nodes is an important factor, as a small node in the isthmus will be more disfiguring and distressing than a node of the same or even larger size which is located in one of the lateral lobes. While an operation will generally be conceded as proper in very unsightly, though otherwise harmless, goitres, it remains entirely with the individual ability and cleanliness of the operator how far he will feel justified through his results to advise operation for lighter forms.

SOME IMPORTANT FEATURES IN THE TECHNIQUE

It cannot be our task to-night to describe in detail the technique of the various goitre operations. But we want to speak of a few points of special interest.

The anesthesia. Years ago when chloroform was the standard narcotic, a great many deaths occurred during and after the goitre operation. The explanations for them were of great variety. It was thought that the cause existed in special conditions as the softening of the trachea, the change of the vascularization of the neck brought on by the operation. The pathologists found in various instances a status lymphaticus, enlarged thymus gland, in which they saw the cause for death. Whatever the explanation, the fact remains for us that under chloroform the goitre operations were very risky. These sudden deaths on the operating-table became a much rarer occurrence when ether was introduced, but in their place another danger appeared in congestive complications on the part of the lungs.

Since local anesthesia is used, the results of goitre operations became incomparably better. The explanation for it lies, not only in the avoidance of these mentioned risks, but also in overcoming other dangers. Among these we have to speak above all of the asphyxia.

As before mentioned, pressure symptoms and danger from asphyxiation are a frequent reason why goitre patients seek surgical relief. During the operation the manipulations about, and the pulling on, the goitre still more narrow the air-passage, and the cyanosis increases. The patient keeps up life with a minimum of air. If now the minimum becomes still more reduced by the administration of chloroform or ether, the condition becomes very critical, and death may occur at any moment. If the patient is, however, awake, he will very promptly indicate by his actions and breathing when the danger-limit of suffocation is reached.

The other cardinal danger, which can almost be eliminated by the avoidance of general anesthesia, is the post-operative hemorrhage. Since the secondary hemorrhage, due to septic softening of the thrombi in the cut vessels, is avoided by modern asepsis, we have only to consider the post-operative hemorrhage, which occurs within twelve hours after the operation, and which has its cause in the slipping of ligatures, particularly of veins. This is brought on principally by vomiting, harsh coughing, or throwing about of the head, which usually can be avoided, if no general narcosis is used.

Another important point speaking in favor of local anesthesia is the easier avoiding of a lesion of the recurrent laryngeal nerve. Though we shall not be able to avoid cases of temporary paralysis of this nerve caused, for instance, by a capillary hemorrhage in the sheath of the nerve from pulling, we shall surely not cut or ligate the recurrent nerve, if we can speak with the patient and can control his voice at the time of ligating the inferior thyroid artery and when separating the goitre from the trachea.

Recent experience with two cases, one being a simple case and the other an exophthalmic one, has taught me that goitre operations can by themselves cause severe lung troubles, even where only local anesthesia is used. In both cases we used only cocaine locally, and both went through an attack of severe purulent bronchitis. I feel certain that general anesthesia in either of these cases would have complicated the condition very unfortunately. It seems to me from the observation of these cases that the extensive ligation of the blood vessels of the goitre produced a very marked collateral hyperemia in and about the larynx and trachea, and in this way invited an acute inflammatory process in the air-passages.

In going over to the operative technique I will first mention that the patient must so lie on the operating-table that he has his neck easily accessible. For this purpose a hard, round pillow is put under the neck. At the same time the breathing of the patient must be seriously considered. If the trachea is compressed a reasonably comfortable position of the patient is needed. It may happen that an upright position is required, if we have before us a cyanotic, nearly choked individual.

A horizontal incision has given perfect cosmetic results in all our cases. If found necessary, one end of the incision was prolonged in a more vertical direction.

As concerns the different operative pro-

cedures I wish to restrict myself to the resection of the lateral lobes. I know only too well that I am not able to bring anything new on this subject, but I cannot refrain from emphasizing a few important points. The goitres may have such varying appearances, and their blood supply in the soft forms may be so abundant that the surgeon is liable to get into a very critical position after the goitre is reached unless he goes on systematically. After the goitre is well laid bare, and one or both inner borders of the sternocleido muscles are freed from their fascia, it ought to be our aim to dislocate it upon the surface of the neck as early as possible. It is usually best now to first secure the upper horn.

The next step is the ligation of the inferior thyroid, which is best done at some distance from the trachea in order to avoid interference with the recurrent laryngeal nerve. If those two arteries are ligated the goitre is under our control. The communicating arteries about the isthmus can be clamped and tied together with the isthmus. I will only add as a last point that it is wise to leave a portion of the posterior goitre capsule over the lateral portion of the trachea in order to keep the recurrent laryngeal nerve sheltered. These are the principal steps of the operation and ought to be adhered to as closely as possible, because we often have a puzzling appearance of the goitre after it is laid bare and the numerous blood-vessels, with the great tendency to free bleeding at any handling of the goitre, may tend to lead to confusion.

If I am allowed to add a few words about my own cases which I partly operated upon here and partly as first assistant of Professor Kocher's clinic, I will mention that in 23, local anesthesia, 0.5 per cent cocaine was used. The other 14 cases, where the patients demanded general anesthesia, were done under ether. The two post-operative hemorrhages which occurred were among the latter ones. We were fortunate enough to control the bleeding in both cases. One death occurred in an exophthalmic goitre of extreme degree six hours after the operation under rapid increase of the symptoms of thyroid intoxication.

All the 36 remaining cases healed promptly without any wound infection. One case, where we excised under general anesthesia a reappearing goitre, left the hospital with a partial paralysis of the corresponding vocal cord. The voice was not entirely soundless, but hoarse. Another lady whom I operated upon a year ago under cocaine remained somewhat hoarse a few weeks following the operation.

I will pass around a picture of one of my cases which is of unusual interest. The large, widely protruding, double-sided goitre was a typically



Struma vasculosa.

vascular one. Pulsating expansion of the goitre was even visible, and a buzzing sensation could be felt on palpation. Marked inspiratory stridor existed. Over the heart you could hear a systolic bruit. But instead of having a nervous person before us with tachycardia, tremor, and exophthalmos, the patient, a girl of seventeen years, presents the type of a cretin. She looks like a girl of about thirteen years. She had not yet

menstruated, was slow in her motions, and quite stupid.

This rare, though typically vascular kind of struma, has to be differentiated from the one in Graves' disease. Such a goitre is softer than an exophthalmic goitre, and has larger blood vessels, which are of a less frail structure. This form of goitre is found only in countries where the goitre is endemic.

After removing the goitre on the right side under cocaine, the respiration became somewhat better and the stridor decreased. As the patient stood the operation well, and was breathing more freely, we felt justified in completing the operation, and also excised the left-sided goitre. After the operation, which was speedily finished, the stridor rapidly increased, and the girl was suddenly near suffocation. Tracheotomy was done without any delay, a canula inserted, and normal respiration was assured. We did not have the least wound infection, which is otherwise quite usual after the tracheotomy becomes necessary. The canula was removed after four days, and the patient was discharged 12 days after the operation.

Let me add a few remarks about the subject of tracheotomy in goitre operations. The case mentioned is a perfect illustration of the softened condition of the trachea, a change as it was already brought to light by Professor Rose in 1878 in his little book entitled "Der Kropftod."

It was very clear in our case that the softened trachea became collapsed by aspiration during the inspiration as soon as the goitre was removed from the two sides. These lobes had apparently kept the lumen open by a pulling action. As soon after the operation as the wall of the trachea had become adherent to the neighboring tissue, the canula became superfluous.

Though Rose went very far when he recommended the tracheotomy as a routine practice, and urged that every severe goitre operation be thus started, we must, even to-day, acknowledge the fact that a tracheotomy in severe goitre may unexpectedly become necessary, and the canula should not be forgotten among the instruments.

In conclusion, I will add a few words about the exophthalmic goitres among my cases. There are three besides the fatal one I mentioned above. One was of a mild form. A beginning protrusion of the eyes existed in a very nervous young lady with an excitable heart, but without pronounced tachycardia. The removal of a solid, parenchymatous struma, done only a half year ago, has brought on normal conditions. In another case, a married lady, all the cardinal symptoms were marked, together with extremely pronounced heat sensation and perspiration, with absolute sleeplessness and psychical disturbance. The patient used to have frequent crying spells for the least reason. Promptly after the operation, gradual and constant improvement set in. The operation took place in April, 1903, and the patient writes in her last letter of September, 1904, that her pulse averages 75, that her sleep is excellent and uninterrupted up to nine hours, and that she walked six miles a day without any bad effect, while before the operation the least muscular exertion caused distress. Her exophthalmos had almost, though not entirely, disappeared.

A third exophthalmic goitre, in the case of an unmarried woman of thirty years, upon whom I operated on Oct. 21, 1904, was of an extremely severe nature. In the photograph, which I will pass around, you recognize the protrusion of the eye-balls, causing a staring expression, and you see a goitre of medium size. If you compare it with the picture of the simple struma vasculosa which I showed you a moment ago, you recognize a striking difference.

These two cases differ very widely, not only in the general appearance of the patients, but also in what concerns the goitres themselves. The simple vascular struma had a nodular form, while the vascular exophthalmic goitre appears as a diffuse parenchymatous enlargement, which, as usual in Graves' disease, does not nearly come up to the size of the former. As a further characteristic of the exophthalmic type we found an adhesive peristrumitis, a condition which markedly adds to the difficulty of the operation in these cases. The tachycardia in our patient exceeded in severeness all other symptoms. When first seen in my office I counted 153 pulses after the patient had been sitting quietly half an hour. The operation, consisting of an excision, or rather a resection of the right half of the gland, proved to be exceedingly difficult. The peristrumitis, together with the frailness of the

blood vessels, made surgical procedure almost an impossibility. Though done under cocaine, the operation was followed by a severe purulent bronchitis. A week after the resection, a marked change for the better in the eyes and in the expression of the face was noticed; but her pulse, which once went down to 88, gradually rose again to 120 and 130, and still the patient declared she felt generally much better and took, only four weeks after the operation, a position as servant.

Under date of Dec. 10, 1904, we find the following condition: Patient looks better, her exaphthalmos is markedly improved, and she appears less nervous. The tachycardia is still very pronounced, 130 to 140 pulsations per minute. She suffers from her palpitations, and says that any kind of muscular exertion brings on a condition which makes work unbearable. She, therefore, had to give up her position as a servant.

On the neck we find the left half of the thyroid gland very large, its consistency and vascular condition being identical with the conditions formerly stated for the right half. A resection of this half of the gland is performed under date of December 16, 1904, and is followed by a marked and prompt improvement.

One week after the operation we find the pulse 108, and five weeks later we read in a letter of a friend of our patient, dated Jan. 18, 1905, the following:

"Miss Henrietta A—— has a good appetite, sleeps well, and feels well. Her pulse taken twice to-day was 92. She is not nervous as she used to be when she lived with me for almost one year, and we all think that she looks much better. Her spirits are decidedly better, and she seems now very contented and happy."

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HOW MAY THE USEFULNESS OF THE COUNTY MEDICAL SOCIETY BE EXTENDED?*

By T. R. Watson, M. D.

ZUMBROTA, MINN.

Mr. President and Gentlemen:

Our president has kindly saved me much worry by assigning to me for discussion the above subject.

The title presumes that the society is at present useful, the correctness of which presumption is to my mind very doubtful, as outside of the brief, pleasant fellowship at the meetings, it is a question whether the cost in time, labor and cash does not far outweigh the benefits gained. Of course we frankly admit that the county medical society, by virtue of its composition, laws, and contains the germs of usefulness, though latent, as they are not inoculated in the best culture media or kept at the proper temperature. I shall endeavor, then, to discuss in a simple, practical way, how best these physiologic germs of usefulness may be multiplied, and be endowed with the essential qualities necessary for the support of any good undertaking. Names for these qualities we might borrow from the great temple of old, and call them wisdom, strength, and beauty,—wisdom to plan and contrive new methods of usefulness; strength of purpose and character to carry these plans to full fruition; and beauty of disposition, temper, and faith to adorn our structure, thus making our plans pleasing and consequently acceptable.

Now, it seems reasonable to believe that the

*Read before the Goodhue County Medical Society at Red Wing, January 5, 1905.

usefulness of the county medical society is capable of extension in two directions, and to two distinct classes: First, and most important, to our own members; and, second in importance under present conditions, to the public generally.

First comes in my mind our duty to ourselves and families. Not since I knew anything of our profession, from outside, as well as from inside the circle, has the ordinary practitioner had so hard a row to hoe as now. Circumstances have changed and are daily changing his status, and that generally for the worse. The true condition of the average physician is well put by the editor of the Journal of the A. M. A. in an article entitled "Progress and Poverty," when he says that the individual physician who has seen his income dwindle during a healthy year, gets no reward, either substantial or honorary, for his small share earned by the profession as a whole, for its beneficent, self-effacing effort. Many physicians are in dire distress for a living for their families and themselves. Pride makes them hide their plight, and their suffering is not easily imagined. Steadily we see ourselves contributing to the health and longevity of the community, and steadily we see our numbers increase. The process, however tragic for the individual physician, will continue —must continue."

Here, gentlemen, we have a very real condition, not a theory, and its removal or amelioration is vital to our very existence. If, then, our society is good for anything, it ought to help at this point. I ask you to ponder this question and produce some plan or plans which will give a ray of hope for the coming days to those of us who must earn a living by our profession. It is possible that we lose much for want of a uniform scale of charges throughout the county, as it renders us easy victims to lying patients, more especially in the fees for minor surgery and dislocations and fractures. Again, we lose much for lack of a black list, and we let ourselves be worked rather than see our competitor get the case. It would surely be no great task for each one to write a list of names found from experience to be in any of the following classes: Actual dead beats, all county wards, very slow pays, deserving poor, genuine charity cases, and people who habitually send for other physicians without any hint to attending physician. Have the list printed yearly for private use, and, I think, the mere existence of such a list will do much to keep some of them honest. And again, some of us lose much financially, and in wounded feelings and injured reputation, by Fate locating us too near to the so-called "foxy doctor." I trust it is not the experience of many, but it has been mine. It is far from pleasant to be told to "Look out for Dr. So-and-So, as he stabs you in the back every chance he gets," while he is most profuse in his friendship when you meet him. Do you know that people are hired on commission by members of our craft to get patients from other members by the simple process of poisoned insinuations as to their ability in such cases, and an exaggerated account of previous mistakes and failures, real and imaginary, with a puff here and there for the honorable, yes the "most honorable man" who is a member of a half dozen medical societies, and always the best in the country for the particular patient's ailment. Is it a wonder that people change doctors in the middle of a sickness, or that one finds his best friends sending for other advice? Thus, as a class, we continue to lose the respect and confidence of the public, and as a class we have ourselves to blame. I do not believe in trusts or combines, but, rather, in free and fair competition; but let it be a competition as to genuine merit and above board, and not of the sneaking, dirty character just indicated.

Gentlemen, is the foregoing a picture of anyone here? If so, pray change your methods; quit your meanness; and rest assured, if you don't, that truth will prevail, as murder will out. It might be well to obligate all members to stand to and abide by all the laws, rules and regulations of the code, and also to bind us not to wrong or injure a fellow member in his purse or reputation, under a penalty of some kind.

We might also agree on a greater individual and united effort to keep the natural practice and emoluments of the county away from the grasping clutches of the great octopus whose shadow dogs our every step, and whose inordinate greed and selfishness keep hundreds of honest and able practicians in a state of chronic

anaurium. Working singly we cannot get and hold many surgical cases which drift to the care of firms, because, true or false, many believe that in that way only can they obtain genuine co-operation on the part of all connected for the best results to the patient. I hold that the unbounded egotism of surgeons is due to the fact that many patients get well in spite of, rather than by the assistance of the operation, coupled with the receipt of fees often out of all proportion to the time, talent, or labor bestowed, and the fulsome advertising that the people and press give surgeons, thus placing them on a pedestal away above the general practician. Is it right, fair, honest, or for the best interests of the public that honest practicians should be thus relegated to the rear, forced to pick up a starvation living, and dance attendance to our so-called great men? In these days it behooves us to unite in twos or threes, form working agreements acceptable to those concerned, and for each man to do his own surgery.

Can any one here by any stretch of imagination point to one real benefit to himself obtained from or through the State or National Association? It has occurred to me often that these associations are run by, for, and in the interest only of the big city men, by the aid in numbers, enthusiasm and finances which we and our like contribute. Does it not seem that the A. M. A. exists for the interest (through one of the shrewdest advertising schemes) of a mere coterie of men of unlimited ambition for gold, statistics, and reputation? What about the State Board of Medical Examiners? Says one: Gentlemen mention it not, as any potent good, for who can contradict me when I assert that in the United States—in Minnesota, if you please—we have more quackery under all kinds of isms and pathies; more empty purses from the sale of nostrums; more endorsements of vile whisky and drunkard-producing concoctions by clergymen and senators—yes, more of all of these than in all the rest of the world. Truly, this is a country where the dear people dearly love to be humbugged.

Dispensing our own medicine may be essential as a rebuff to counter-prescribing, and the unauthorized use of our formulæ; and thus to compel patients to return and report is a subject fast becoming vital to us, and might well be discussed. I drop it with a bare mention on account of the title of another paper on the program.

Lastly: If our county meetings are to be attended by the country members, the meetings must be instructive and entertaining in some way to recompense us for our car-fares, board, loss of time, and much inconvenience. For us at Zumbrota it takes from 6 a. m. to 9 p. m. or later, to attend this meeting. Gentlemen of Red Wing, do not have or expect us to hang around like tramps. Give us clinics or take us to see your interesting cases, and so make our day pleasant and profitable, else, be assured, you will have the meetings entirely to yourselves.

How may the usefulness of the county medical society be extended to the general public, will now be considered very briefly, not because it is not important and wide in its possibilities, but because I believe that unless much in present conditions be removed, we as individuals or as a society will soon be incapable of being useful to anyone. Only when we reach comfortable circumstances financially, with reasonable security of not dying paupers, does it become a duty to direct our efforts in relieving others of responsibilities who generally are more capable of caring for number one than we are, and who do it too. Can we do more without injury to ourselves? If so, let us do it; if not, let us wait till we are as well fixed as the average merchant.

I find in an able paper by Dr. S. A. Knopf, on "The Family Physician," in the Journal of the A. M. A., of October 22d, a list of 67 popular patents which contain all the way from 5¼ to 47½ per cent of alcohol. Any or all of these we know may be sold or bought without hindrance at any cross-road store, and yet whisky, which contains less than 50 per cent alcohol, requires a license for its sale, and our prohibition friends live in horror of it. If you consider it a good thing for the public that the sale of vile whisky under other names be prevented or limited, would it be possible by agitation to get our State Association to get after the legislature to put all patents containing more than 5 per cent alcohol on the list as alcoholic liquors, and thus stop their sale, except in regularly licensed sa-

loons? Then our endorsing clergymen might realize sharply what havoc they played and the public know at least what they bought. Such action in this home of fakes and quackery could not injure the legitimate profession, and it would protect the innocent.

I believe there is a large field of usefulness open to us in the organization of a county or better still a State Society (with headquarters in Red Wing) for the general instruction of classes in "first aid to the injured." Of course it could be begun in a small way, and widened as seemed advisable. It might be modeled on the lines of the St. John's or St. Andrew's Ambulance Associations of London and Glasgow. Although more accidents occur in the streets and workshops of the cities than in the village or on the farm or country road, still they do happen even there and then it takes more time to secure proper assistance than in cities. Such classes would compel the teacher to keep himself posted, beget confidence in him by the community, and be good training in the faculty of expression, while it would be a lasting benefit to the intelligent members of the classes. The editor of the Medical World says "The people should be taught all they are willing to learn about hygiene, sanitation, correct habits, etc., but when it comes to using medicine they should look to the doctor entirely, and not play with edged tools, for it is dangerous." I heartily endorse this, only I would add "first aid to the injured" before etc. I show you a certificate received from the St. Andrew's Ambulance Association 20 years ago. These associations are still active and doing good work.

No doubt there are more ways in which the county society might be made more useful, but I stop here with the suggestion that after discussion, if there seems to be consensus of opinion in any direction requiring action, a committee of three be appointed to formulate a practical scheme with details, and report the same for consideration and action at the next meeting.

Note.—Public meetings are to be held in Red Wing on February 8th and 15th, to be addressed by members of the county medical society, with the object of organizing classes in first aid to the injured.

HOSPITAL BULLETIN

NORTHWESTERN HOSPITAL

MINNEAPOLIS

THREE EXCEPTIONAL AND INSTRUCTIVE CASES OF APPENDICITIS

IN THE SERVICE OF DR. JAMES E. MOORE, SURGEON-IN-CHIEF

CASE 1.—F. D. R——, aged 42, bank teller, referred by Dr. Thomas S. Roberts.

On Sept. 26, 1904 this man did his day's work, leaving the bank at 3 p. m., going directly to Dr. Roberts' office. At that time he complained of a general pain and discomfort in the abdomen, for which the doctor prescribed. In the after part of the same night all symptoms had increased in severity, and his temperature was 105°. Early on the 27th a diagnosis of acute appendicitis was made, and by 2 p. m. he was in the hospital ready for operation, with a pulse of 90 and temperature 102.4°.

The usual muscle-splitting operation was performed, and a very large distended appendix was removed. There was a considerable quantity of cloudy serum in the peritoneal cavity, with an odor of the colon bacillus, so that it was not deemed safe to close the wound without drainage. Two cigarette-drains were introduced, and the wound closed.

Immediately after the operation he had a very severe chill lasting forty minutes. After the chill he complained of severe pain all over the body, especially through the lower limbs. At 7 p. m. his pulse was 80 and temperature 104°. At 5 p. m. on the following day his pulse was 78, and temperature normal. On the third day a very extensive herpes appeared over the mouth and nose. Temperature was normal; pulse 100; free bowel movement followed a Noble's enema.

After this pulse and temperature ran slightly above normal until the ninth day, when his temperature rose to a little over 100,° and a profuse discharge with a colon bacillus odor appeared in the wound. From this time on until he left the hospital on November 26th, pulse and temperature were practically normal, but the superficial part of the wound was still open.

There are a number of interesting and practical points in this case: First, the extreme temperature of 105° before the operation, verifying the oft-repeated statement that the highest temperatures in acute appendicitis come with cases in which there is no rupture of the appendix; second, the fact that the prompt operation in this case undoubtedly saved this man's life; third, the wisdom of drainage in this particular case, although it was only the second day of the disease; fourth, the refusal of the wound to heal. The patient was very ill at the beginning, and the rational conclusion is that he was so inoculated at the time of his high temperature as to put him away below par, so that nature was unable to close the wound in the usual time. The patient had a very thick abdominal wall, the fat layer being over two inches in depth. This doubtless had something to do with the slow gain, but had it not been for the general infection, nature doubtless would have brought about a quicker recovery.

The patient finally made a complete recovery and returned to his business.

Case 2.—F. E——, aged 33, German saloonkeeper. Referred by Dr. Leland of Tintah, Minn.

The patient was admitted to the hospital during the night of September 18, 1904, with a pulse of 88, temperature 101.4°. Dr. Leland had been called to see this man two days before his arrival at the hospital, and promptly made a diagnosis of acute appendicitis. He recommended him to come to the hospital immediately, because at that time he was suffering from an exceptional amount of pain, some distension of the abdomen, and temperature of 102°. At 8 a. m. the morning after his arrival his pulse was 68 and temperature 99.4°. He was feeling much better, but still complained of pain in the abdomen. Since this was the beginning of the fourth day it was deemed wise to wait, the inference being that it was a case of catarrhal appendicitis which nature would relieve without interference. From this time until September 24 his temperature and pulse were normal, bowels moved freely, and pain disappeared.

It was deemed wise to remove the appendix before the patient's return to his home, which was many miles from a hospital. He was taken to the operating-room, and the usual muscle-splitting operation performed.

This patient had complained of some irritation of the bladder from the first, so that the natural conclusion was that the appendix pointed toward the pelvis. Upon introducing a finger through the small wound, an inflammatory mass was felt well down in the pelvis, some distance from the wound. The inference drawn from this was that the case had been more severe in character than the man's symptoms indicated, so that the operation was carried out as if an abscess were present, which proved to be a very wise precaution, because well down in the pelvis a goodly sized abscess with very vile odor was found. After carefully protecting the healthy parts of the peritoneum and repeatedly mopping out with gauze, a gangrenous appendix was found and removed. A cigarette-drain was introduced, and the wound closed close around it. On the third day after the operation a Noble's enema was given, which was followed by a free movement of the bowels and escape of a large quantity of gas. Pulse and temperature were normal. From this time on until October 20, when the patient left for home, the pulse and temperature were practically normal, although there was a slight discharge with a colon bacillus odor.

The lessons to be learned from this case are, first, that oft-repeated lesson that we cannot depend upon symptoms in a case of acute appendicitis as an index to the real pathological condition; second, the wisdom of the removal of the appendix, although the pulse and temperature were normal and the patient declared that he was well, rather than allow him to return to his home, which was remote from a hospital; for, had he returned to his home with that gangrenous appendix and foul abscess in his abdomen, the result would probably have been very different; third, the wisdom of treating

the case as one of abscess as soon as the inflammatory mass was discovered; fourth, this case demonstrates that even in the presence of abscess and gangrenous appendix it is not necessary to put large quantities of gauze or a number of drainage tubes into the abdomen. This patient made a very prompt recovery, and will have no ventral hernia. Had he been packed with gauze, or filled with drainage-tubes and the wound left wide open, his convalescence would have been prolonged, and he surely would have a ventral hernia.

Case 3.—Miss A——, physician, Salt Lake City, Utah.

This patient came under observation on November 7, 1904. At this time she had a pulse of 82, temperature 99°, and complained of general discomfort in the abdomen. Two days before, after a lunch at which she had eaten mushrooms, the discomfort began, and was considered by herself a case of indigestion. During this time she had been unable to secure a movement of the bowels. Upon examination the abdomen was found flat, and free from tenderness or muscular rigidity. She complained of the greatest pain over the right loin; and pressure made between McBurney's point and the right loin caused severe pain.

The diagnosis was of appendicitis with the appendix outside of the peritoneum, behind the cecum.

Operation was advised, but the patient, herself a physician, demurred. At 4 p. m. her pulse was 98, temperature 101.6°; pain increased; the abdomen was still flat, and there was absolute absence of muscular rigidity; the point of tenderness in the loin remained the same. The patient looked and felt badly, and accepted operation. At 8 p. m. she was taken to the operating-room, and an appendix an inch and a half long with a long, fibrous band leading from its apex well up toward the liver was removed. An enterolith the size of a cherry seed with a gangrenous spot immediately over it, which gave forth a colon bacillus odor, was found. Although a diagnosis of an extraperitoneal appendix had been made, the operator, either from the lack of courage of his convictions or as a matter of routine, made the usual muscle-splitting incision, with the exception that the incision was made a little higher up than usual. The peritoneum was found perfectly healthy. Upon turning up the cecum it was found smooth and healthy, and without an appendix. By extending the incision upward a little, and tearing the peritoneum outside of the ascending colon, an inflamed mass could be felt deep down underneath the colon. The colon was rolled toward the median line, bringing the appendix into the wound. The appendix was removed in the usual way, drainage made through the loin, and the abdominal wound closed.

The pulse and temperature remained practically normal for the first four days after the operation, but at this time the patient became slightly jaundiced, was very restless, the abdomen became slightly distended, temperature 100.4,° and pulse 120; the patient was slightly delirious, and difficult to arouse, and looked very badly. It looked as if, in spite of the precautions taken, infection had extended through the areolar tissue and lymphatics behind the peritoneum. Upon inspecting the wound a colon bacillus abscess was found in the superficial layers of the abdomen, extending between the two wounds. Drainage was established, and the bowels thoroughly cleaned out, after which all of the unfavorable symptoms disappeared, and the patient made a rapid convalescence, so that on November 26 she left for Mexico to recuperate.

This case was one of the most interesting and, at times; one of the most obscure and alarming ever coming under the observation of the writer. First, the diagnosis of appendicitis was made in the absence of abdominal tenderness, and the almost invariable muscular rigidity. Operation was urged because the patient looked badly, and because it was believed the appendix was extraperitoneal, resting in a bed of areolar tissue and in close touch with an elaborate system of lymphatics. Surgeons have learned that the peritoneum, instead of being the dangerous enemy it used to be considered, is really their best friend, and that an appendix behind the cecum and outside the peritoneum is infinitely more dangerous than one within the peritoneum. It would have been much better had this operation been made originally through the loin, thus avoiding the necessity of two

openings. It would have been a very serious mistake to have drained through the abdominal opening. The patient was very fortunate that the drainage was made through the loin. The alarming symptoms, appearing on the fourth day, were very difficult to analyze at the time, the natural inference being that serious extraperitoneal infection had taken place, and that danger of subphrenic abscess was imminent. Her jaundice and general appearance indicated as much. In the light of subsequent events, however, the jaundice was doubtless a sequel of the chloroform anesthesia, the rapid pulse and mental disturbance being purely neurotic.

ST. BARNABAS HOSPITAL

MINNEAPOLIS

FRACTURE OF THE SPINE; OPERATION

In the Service of Dr. W. E. Rochford

Mr. F. H——, aged 34, English, while riding on a hand-car in the country, on Nov. 2, 1902, fell off backwards, striking his back in the lower dorsal region against the steel rail of the track. As he weighed over 200 pounds he must have struck with great force. When picked up he was unconscious, and it was found that the bowels had moved involuntarily and that the whole right leg and foot were paralyzed. He had no sensation in these parts and no motor power. There was some sensation and a very little motion in the left leg. He remained unconscious until in the night. The urine had not passed at all, and accumulated till he was brought to St. Barnabas hospital on November 4, when 57 ounces were removed by catheterization.

The patient suffered great pain, and was made comfortable only by continued hypodermics of morphia. Reflexes were absent. A large bedsore soon developed over the left sacrum near the median line, and it continued to get worse in spite of treatment.

On November 12, after consultation, it was decided to operate.

The patient was etherized, and an incision about 9 inches long made over the dorsal vertebræ. Upon exposure of the vertebræ it was found there was a displacement of the tenth spinous process and that the laminæ of the tenth dorsal were fractured, and perhaps the body of the vertebrae and a fragment firmly pressed upon the cord. The dura mater was torn for about 3 inches. The cord appeared disorganized or macerated; hemorrhage in the canal was slight, and the cauda equina was plainly visible. The fragment causing pressure was removed, together with the arches of the ninth, tenth and eleventh dorsals. The dura mater was partially brought together with catgut, and the wound packed with plain sterile gauze and closed with silk-worm gut, interrupted sutures leaving a small piece of gauze drain protruding from the middle of the wound.

Patient recovered nicely from the ether. On the following day it was noticed that sensation had reappeared in the whole of the right leg and foot. The patient said that he felt better than at any time since the injury.

One very noticeable feature was the improvement of the bed-sore heretofore mentioned, which steadily improved after operation and is now nearly entirely healed.

On the 18th the packing was removed and the wound found in a healthy condition.

December 9 the wound was all healed except a space of about ½ inch, left for drainage. Patient's pain is almost nil, appetite very good, and he says he feels fine. Condition of bladder and bowels about the same, except that he knows when the bowels move, which he did not know before the operation. Cremasteric reflexes returning, present on one side only.

Present condition of the patient, two years and three months after the accident: General health excellent; weighs 230 pounds; no bed-sores; can move both limbs in all directions; some atrophy of the muscles of both limbs; cannot put either foot flat on the floor, on account of the contracted and distorted condition of the feet. Patient has partial control over the bowels, moving once a day, except rarely, when the discharges have become liquid, and then the movements are continuous. No improvement of the bladder; incontinence present all the time. Occasionally has cystitis, which is relieved by boric acid irrigation. When assisted up and helped on crutches he can walk from one room to the other unaided. Is able to sit up in a reclining chair all day without complaining of weakness or being tired in back.

A further and more complete report of this case will be made later on.

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THE COUNTY MEDICAL SOCIETY

The present issue of The Lancet contains an article by Dr. T. R. Watson, of Zumbrota, on the usefulness of the county medical society and how it may be extended.

The writer is in doubt as to the benefits of county societies in general, and makes one or two suggestions that may be seriously considered.

The value of the social-fellowship side of the medical society is admitted by the writer, and he presumes the fact is an accepted one. If medical men simply met for social purposes, and thus formed a society, the results would be worth the time, labor, and money expended.

Physicians get together little enough, and do not really know one another except through the report of friends or patients. A closer intimacy between physicians would clear away much of the malicious gossip that passes as medical news. The social side of the country physician needs stimulating. He is too apt to depend upon his practice and environment for his idea of the life of the physician. Unless he is ready and willing to meet his brother practitioner in a friendly spirit, and to exercise his mental faculties in medical and non-medical topics, he soon drops into a rut, from which there is no escape. His ideas narrow until he sees nothing but a thin and wavering medical line from which he dares not deviate. This brings discontent, discouragement, and failures, and the blame is frequently placed upon innocent shoulders, when it actually should be borne by the physician himself. Every county society is a medical index, and insures to a greater or a lesser degree the standing of each member. Each meeting, however trite the papers and discussions, should contain some suggestion that can be profitably carried home by the members. True, some meetings are tiresome, but the inertia is due to the mental inertia of the members of the society, hence the blame is distributed over the entire society. The presiding officer or the committee in charge of the program are usually responsible for the character of the meeting. No medical society is a success unless its officers are determined to do their part of the work.

There is no excuse for a poor medical society, particularly if it has had a few "experience" meetings. The fault can be easily located, and as easily remedied. Even in the small county societies the exhibition of a specimen with a clinical report of a case will call out discussion.

Physicians are reserved, shy, or embarrassed in medical societies. They hesitate to express their views for fear of exposing their lack of knowledge or for fear of criticism. It is better to attack a subject openly rather than let some loose statement go unchallenged. It is better to attempt to talk to the point, even though the speaker has opposite views from the essayist, rather than hide one's light under the cloak of indifference. The activity, interest, and competition is what makes the large county society or state organization a success. If you feel that your brother physician is too aggressive, display some aggression yourself; if you think the A. M. A. is conducted for the benefit of a few, get into line and be one of the pushers. Push is a force that is wholesome, and it is not flagrant advertising. Be modest if you please, but show what you know. If you know but little, you will learn by the criticism of others. The man who expects to succeed does not fear competition; he makes himself heard, and his reward is commensurate with his worth.

The evil of many medical societies is the "knocking" proclivities of its members. Petty jealousies have no place, and gain no rewards, in medical societies. The best men do the best work, and the grumbler admits his failure.

Medical men should come together for their own good, their social advancement, mental athletics, fraternalism, comparison of views, vigorous discussions, the recital of experiences, and exhibitions of their work. A clinic or a pathological exhibit or the record of a case is sufficient reasons for the congregation of medical men. A mediocre paper containing matter of common knowledge is usually a bore, but who knows but that one man may profit by it?

A medical society without life or advancement should be rejuvenated by the injection of new blood into the committees, and the new material will awaken interest in spite of the old backsliders.

MEDICAL LEGISLATION

Minnesota's new capitol is the home of the present body of representatives. Who knows what will be done for the medical profession? It has been said the legislature is more kindly disposed this year, and may grant a few of the requests of medical men.

A new medical bill, or rather the old bill with a few improvements, may receive some attention. The committee on legislation do not propose to attack any of the special schools of practice, for they know that opposition of this kind is not graciously received by the men who make laws. Of course, the six-weeks'-old chiropractic has asked for an examining board, and doubtless they will be accommodated, as their practice is new, although untried. Let them have it, if they must; they probably need it. The medical bill, however, is worthy of attention, as it only asks for a change in phraseology suggested by the supreme court.

Minnesota is still looked upon as a progressive state from a medical point of view. It was a pioneer in medical legislation. Other states have copied its lead, and have profited by our mistakes. It seems reasonable, then, for the medical men to be placed on a par with those of other states who are protected from the onslaught of unscrupulous practitioners. All we ask is a reasonable bill that will enable us to retain our self-respect, and, at the same time, be sound in its construction, and conform to the wishes of the majority of the members of the profession.

In previous years the request of the doctor was looked upon with suspicion; now a better understanding between the law-maker and the doctor will be for the good of both and for the public in particular. A little missionary work is still necessary for the benefit of the new members, and the legislative committee would appreciate words of encouragement on the part of the doctor to the law-maker. Tell him we want but little, but we want the bill unassailable—one that will provide protection to the needy, and conviction to the unworthy, will help the State Board of Medical Examiners to exterminate the mountebank and shark-like quack. Such a bill will save the state and the people thousands of dollars annually, and will improve the public health and morals.

AN ASYLUM FOR INEBRIATES

Some years ago a ward in the Rochester State Hospital was designated as the "Inebriate Ward," and was for the reception of those addicted to drink and drugs. The officials soon found such an arrangement unwise, and the legislature abolished it, but provided no place for this unfortunate class.

There is great need for a home for inebriates and drug fiends in Minnesota. An argument in favor of the establishment of an institution of this kind is that it would be practically self-supporting. A large number of the inmates woud readily and cheerfully pay for their care and maintenance, and thus would contribute to the support of those who were unable to pay. Both classes could be employed for the benefit of the institution and for their own physical betterment. The institution should be located on a farm away from the avenues of temptation, and surrounded by means to prevent escape. The building should be provided with appliances for work in-doors, as well as out-of-doors, for amusements, and for other forms of occupation. Commitments should be voluntary or by legal process, but a time should be fixed by law of sufficient length to effect a cure. The best form of treatment for the inebriate is a complete separation from old associates and environment, manual occupation, a simple out-of-door life, and a discipline that will create a healthful habit of mind and body. Good food and physical exercise

are worth more than drugs. Agreeable surroundings and a moral tone of a well-conducted institution would save many a man who is otherwise doomed, mentally and physically.

Drug habits are on the increase. It is gratifying to hear that legal restriction is about to be thrown around the indiscriminate seller of morphine and cocaine. The same protection should be placed about the unfortunate who is morally or physically unable to restrain his appetites by an institution promoted for his cure. The hospitals for the insane are not for the inebriate class; they must have a home of their own where they recuperate their forces by nature's methods.

Urge the legislator to give this plan his earnest consideration.

VALUABLE INFORMATION

Two of THE LANCET's exchanges furnish matter that may be of special value to some of our readers.

The annual medical progress number of the Interstate Medical Journal, of St. Louis, contains very comprehensive and unusually well written reviews of medical progress during 1904. Such matter can be thoroughly well prepared only by specialists in each line who have the work in mind throughout the year, and who have access to all the voluminous literature that comes from the American and foreign press. Such a review the Interstate Medical Journal for January furnishes the medical profession, and it is probably in better form than it can be found elsewhere.

The Iowa Medical Journal is giving its readers a complete and accurate directory of the medical men in Iowa. This indeed is no small task, and it is not much lessened by any directories one can obtain. Such lists are of great value to many men, and anyone interested may obtain the list by writing the Iowa Medical Journal, which is published at Des Moines, Iowa.

REPORTS OF SOCIETIES

MINNESOTA ACADEMY OF MEDICINE

A. W. DUNNING, M. D., SECRETARY

The regular meeting of the Academy was held on Wednesday evening, February 1, 1905, at the West Hotel in Minneapolis. The president, Dr. Max P. Vander Horck, was in the chair.

A communication was received from the officials of the N. P. Railway giving details of a proposed excursion to the American Medical Association in Portland in July next. The Academy endorsed the proposition, and gave the railway officials permission to use the name of the Academy in promoting the enterprise.

Dr. F. A. Dunsmoor reported a case, and presented the specimen of enucleation of the prostate gland in a man 74 years old. He also reported a case of cancer of the pylorus of the stomach operated upon three years ago. He found at a recent examination of the patient a distinct malignant involvement of both ovaries and the top of the uterus. He raised the question as to whether it was a recurrence or a distinct and separate development. He is inclined to believe that in this case it is the latter.

Dr. S. Marx White demonstrated microscopic sections of the above cases.

Dr. A. E. Benjamin presented a specimen of tumor removed from a man aged 65 years. The growth occurred beneath the angle of the jaw, first appearing twenty-six years ago, and growing for six years. It then remained stationary for twenty years, but four months ago it began to grow rapidly. Within this short period the man lost 65 pounds in weight, and his respiration became embarrassed from pressure of the growth. Operation was under local anesthesia, together with suggestion, the assistant holding a mask over his face and continually urging him to sleep. One-half of one per cent cocaine solution was used. Four weeks later glands were removed along the sternum, which were undoubtedly sarcomatous. It is now six weeks since the operation and the man is very greatly improved.

Dr. H. B. Sweetser, of Minneapolis, reported a case of foreign body removed from the right bronchus and trachea in a child five years old. In March, 1904, the child had inhaled a small nail into the bronchus, where it remained until the following December. In October it had been treated for bronchitis, from which it apparently recovered. In December, however, it had a sudden strangling spell when the history of the nail was elicited. X-rays at that time showed indefinitely its location, but a subsequent skiagraph located it very plainly. Operation was done December 20th. Cocaine and adrenaline were used. The tracheotomy incision was made, and with an endoscope which he had made the doctor succeeded in grasping the head of the nail and bringing it away. It had become eroded from the shaft. In a violent fit of coughing, im-

mediately following, the shaft of the nail was brought up into the trachea, where it was easily picked out.

Dr. Sweetser also reported the case of a child 2 years and 5 months old, who had filled its mouth with peanuts, and the mother attempting to remove them caused the child to cry, when it inhaled one of the nut meats into its bronchial tube. Seen 24 hours later the child was having strangling spells, rapid pulse, and slight temperature. Operation was made 48 hours after accident. High tracheotomy was made, the opening being above the isthmus. A violent cough immediately following the opening of the trachea brought the nut meat into the wound, where it was scooped out. The child's voice was used immediately on awakening.

Dr. James S. Gilfillan, of St. Paul, then read his inaugural thesis entitled "Intermittent Gastric Hypersecretion."

Dr. Staples opened the discussion. He thought the trouble often due to motor insufficiency, and to hyperacidity. The therapy has changed a good deal. The benefits to be derived from lavage and also from surgery have been greatly overdrawn, he believes, but there is one method of treatment that he considers very valuable, that is, well regulated and carefully managed massage. The patient should lie first on the right side, rolled well over toward the face. While in this position the massage should be applied to the region of the stomach in a deep, firm manner; then turning on the left side repeat the process in that position, and continue for a long time. The masseur must be very carefully instructed, and not allowed to place the patient on his back. He believes that more good can be done by this than by any other method of treatment.

Dr. A. W. Abbott referred to a case reported by him at a recent meeting of the Academy, in which the intestine below the stomach was contracted to a small pink cord. We do not know what causes this contraction below the stomach, and the consequent dilatation. He referred to another case operated upon for appendicitis, in which hiccough lasted for ten days. Peritonitis was diagnosed, and a second operation was considered, but owing to old age of the patient it was thought unsafe. All fermentable food was stopped, and large doses of sodium bicarbonate were given, when recovery promptly followed. He has since seen several cases of hiccough relieved by sodium bicarbonate.

Dr. Hunter believes in thoroughly emptying these patients, both stomach and bowels. A bowl of warm water containing either soda or salt will usually relieve the stomach, to be followed by an ice-cold water enema to relieve the bowels. Give no milk or fermentable food; then treat the neurasthenia which usually accompanies the condition, and make a complete change in the life and surroundings of the patient.

Dr. Gilfillan said that his object in writing this paper had been to bring out clearly the consideration of these attacks of pain in the upper abdomen. Subjectively they are difficult to distinguish from gall-stone colic, and he has known of several cases being operated upon for gall-stones when no gall-stones were present: One difficulty is that operators have not analyzed the fluid with sufficient care. They go ahead and operate, and let out a lot of brown fluid not fully understanding its nature. In all cases in which gall-stones are suggested, acute fluid dilatation should be considered unless the case is typical of gall-stones.

BOOK NOTICES

MANUAL OF OPERATIVE SURGERY. By John Fairbairn Binnie, A. M., C. M. (Aberdeen), Professor of Surgery, Kansas City Medical College, Kansas City, Mo., Fellow of the American Surgical Association, Membre De La Societe Internationale De Chirurgie. With 559 Illustrations. A number of which are printed in colors. Philadelphia: P. Blakiston's Son & Co.

The Annals of Surgery during the twenty years of its existence has probably done more to develop American surgery than any other one agent. To all those who have read and reviewed each article in this journal from the beginning to the present time, the name of Binnie has become exceedingly familiar. It has been the one name during all these years that has been most constantly signed to the splendid abstracts of foreign literature which have been a feature of the periodical. From Binnie's pen we have had re-

views from the French and the German as well as the British journals, and the ability possessed by this reviewer which has enabled him to give us in so few lines the pith of the long articles as they appear in the original has been conspicuous.

In writing this work on Operative Surgery, the same commendable feature is everywhere apparent. It is the biggest little book that it has ever been my fortune to look over—clear, concise and always to the point. No time is wasted in dealing with those facts in operative surgery which have, practically, been settled for five years. Amputations, excisions of the joints, fractures, dislocations, etc., are conspicuous by their absence, and why should we want them? They are well given in every system of surgery which we have on our shelves, but the more unusual conditions are very fully treated and we are given a view of the best French, German and English methods of handling surgical conditions with which many of us are not sufficiently familiar.

The book contains splendid articles on the surgery of the more rare and unusual conditions, such as diaphragmatic hernia, and one might say that here he can find the very things which he fails to find in the ordinary operative surgeries. The chapters on surgery of the abdomen, of the chest and of the head are very carefully written. The methods of lengthening tendons, treatment of bursæ and all sorts of things which may, singly, be unusual in practice but in the multiple are very frequent we find quite fully described. There is an unusually large number of illustrations for a small work. The paper and print are both good, and it is bound with flexible covers, which makes it a handy book to put in one's pocket or satchel. W. J. Mayo.

Elements of General Radio-Therapy for Practitioners. By Dr. Leopold Freund. 107 Illustrations. Over 500 Pages. New York: Rebman Company, 1904.

Dr. Freund has treated the subject of Radio-Therapy from a basis of pure physics in the light of known phenomena, focusing the mass of evidence upon their fundamental relation to the living organism. Necessarily he has "purposely presupposed but little knowledge on the part of the reader." This elementary way of presenting the arguments, *ad seriatum*, from the ground up gives the physician an opportunity to become familiar with a mass of highly important facts otherwise out of his grasp. After a brief discussion of the elements of electricity, the author devotes a considerable space to the high-frequency currents, instruments, technique and physiological effects.

Under the caption of "Treatment With X-rays," Dr. Freund describes the phenomena of the Crookes tube, and gives an interesting analysis of the radiations from it, thereby affording a really scientific basis from which to apply these radiations. In this chapter, as in all of the others, pertinent clinical data are given, these resulting from the described technique. The importance of these details is obvious.

The remainder of the book is devoted to the latest theories and therapeutic application of the Becquerel rays, and photo-therapy. As indicated by this work, these latter agents, although long known as curative agents, are just beginning to assume their proper place in medicine.

Essentially the book is a record of Dr. Freund's own labors, although he has drawn without reserve upon a very extensive bibliography.

This book will commend itself without reserve to those who are really interested in what is destined to become a very important factor in therapeutics.

A Manual of the Practice of Medicine. By A. A. Stevens, A. M., M. D., Professor of Pathology in the Woman's Medical College of Pennsylvania; Lecturer on Physical Diagnosis in the University of Pennsylvania; Physician to the Episcopal Hospital and to St. Agnes' Hospital; Fellow of the College of Physicians of Philadelphia, etc. Sixth Edition. Thoroughly Revised, Enlarged, and Reset. Handsome Post-octavo of 556 pages, illustrated. Philadelphia, New York, London: W. B. Saunders & Company, 1903. Flexible Leather, $2.25 net.

To cover completely, as this work does, the entire field of Practice of Medicine in 556 octavo pages, is something of a feat, and results as the author intends in a condensed text book for students' use. Stevens' Manual presents the salient features of each disease clearly and concisely, so that the reader receives a definite picture, if only in outline, of the matter in hand. Recent progress in medicine has made it necessary to enlarge the work and to re-write some parts of it, especi-

ally on the Diseases of the Digestive Organs, Myocardium, Blood, Spinal Cord, Larynx, on Gout and Malaria.

In arrangement and typography the present edition is pleasing. The convenient pocket size and flexible leather cover will appeal to students, to whom it can be commended as a convenient basis for further reading and attending lectures. Six editions since 1892 show the popularity it enjoys.

THE SELF-CURE OF CONSUMPTION, WITHOUT MEDICINE, with a Chapter on the Prevention of Consumption and Other Diseases. By Chas H. Stanley Davis, M. D., Ph.D. E. B. Treat & Co., N. Y.

This little book on the whole is worth recommending to patients. Unfortunately the author cannot resist, in some chapters, to seek by-paths of thoughts on the subject much to the detriment of conciseness and purpose. The chapters on breathing, diet, exercise, climate and prophylaxis are good. The introductory quotation from Miss Isabel H. Robb is most felicitous.

H. L. ULRICH.

NEWS ITEMS

Dr. A. C. Peterson, Hamline, '04, has located at Dassel.

Dr. F. C. Wheat has moved from Ellsworth to Marshall.

The Ebenezer hospital of Madison will be enlarged at a cost of $4,000.

Dr. J. D. Taylor, of Minot, N. D., has been appointed county physician.

Drs. J. F. Avery and M. A. Desmond, of Aitkin, have dissolved partnership.

Dr. F. O. Kaps has moved from Colman, S. D., to Winifred, in the same state.

Drs. M. S. Jones and D. E. Seashore, of Battle Lake, have dissolved partnership.

Dr. R. I. Hubert, of St. Cloud, has been at St. Barnabas hospital for an operation.

Dr. E. S. Muir, of Winona, who has been very sick, is reported as very much better.

Dr. C. J. Montgomery has moved from Petersburg, N. D., to Starkweather, in the same state.

Dr. J. A. Regner, who has been practicing for some years at Alexandria, has moved to Evansville.

Dr. R. R. Stevenson, of Sioux Falls, S. D., was married last month to Miss Emile Avery, of Chicago.

The North Dakota State Medical association meets in annual session at Grand Forks next month.

Dr. Knelem J. Lee, of Renville, has located in Fergus Falls. Dr. Lee is a graduate of Johns Hopkins.

Dr. E. L. Goss, of Carrington, N. D., and Miss Nellie Standish, of Sanborn, N. D., were married last month.

Dr. John Crawford, of Esmond, N. D., is doing special work in Chicago in eye, ear, nose and throat work.

Dr. E. M. Schelde, of Zumbrota, a graduate of Hamline, died last month at Owatonna, where he was visiting relatives.

Dr. George D. Rice has moved from Albert Lea to Pipestone, and formed a partnership with Dr. W. J. Taylor, of that place.

Dr. L. A. Brustad, of Park River, N. D., has gone to Chicago and will go from there to New Orleans to do post-graduate work.

Dr. J. Warren Little, Minneapolis, announces that hereafter his practice will be confined to surgery, consultation, and office work.

Dr. Fred W. Richardson, formerly of St. Paul, died last month in the Philippines, where he was a contract United States army surgeon.

Dr. C. W. Wilowske, who graduated from the homeopathic department of the state university last summer, has located at Faribault.

Dr. Ralph S. Mitchell, a Hamline graduate, class of '03, now located at Grand Meadows, was married last month to Miss Helen Lucas, of Minneapolis.

Winslow C. Chambers, a member of the senior medical class at the State University, has charge of the pathological work at the Swedish hospital, under Dr. Wesbrook.

The Ramsey County Medical society has elected the following officers for the current year: President, Dr. A. W. Dunning; vice-president, Dr. Burnside Foster; secretary, Dr. E. F. Geer.

The citizens of Marshall are planning to establish a hospital that will be a credit to the city. The board of education has a $10,000 school building which will probably be donated to the hospital association.

Dr. H. H. Healy, of Grand Forks, N. D., at present secretary of the North Dakota State Board of Health, has been strongly recommended for reappointment by the executive council of the State Medical Association.

The younger members of the medical profession of Duluth have organized the Duluth Medical Club, with the following officers: President, Dr. F. J. Patton; vice-president, Dr. E. D. Strech; secretary, Dr. N. L. Linneman.

The Journal of Fergus Falls says that last fall the St. Paul Medical Institute had two doctors at Effington curing all kinds of diseases, and getting papers, as usual, and that these mysterious papers are now turning up as promissory notes.

The Rice County Medical Society met at Faribault last month and elected the following officers for the current year: President, Dr. F. M. Rose, Faribault; secretary, Dr. F. R. Huxley, Faribault; treasurer, Dr. W. H. Robilliard, Faribault.

The Northwestern District Medical society of North Dakota met at Minot last month and elected the following officers for 1905: President, Dr. Andrew Carr, Minot; vice-president, Dr. Henry Windell, Kenmare; secretary, Dr. J. T. Taylor, Minot; treasurer, Dr. Davis, Granville.

The Olmsted County Medical society met in annual session at Rochester last month, when the following were elected officers for 1905: President, Dr. W. V. Gulick, Oronoco; vice-president, Dr. E. S. Judd, Rochester; secretary and treasurer, Dr. C. T. Granger, Rochester.

The McLeod County Medical society held its annual session last month at Lester Prairie. The following were elected officers for the current year: President, Dr. E. E. Barrett, Glencoe; vice-president, Dr. P. E. Sheppard, Hutchinson; secretary and treasurer, Dr. D. E. James, Hutchinson.

The Upper Mississippi Valley Medical society held its annual session at Brainerd in January. The following were elected officers for 1905: President, Dr. J. G. Millspaugh, Little Falls; vice-president, Dr. J. A. Thabes, Brainerd; secretary, Dr. C. F. Coulter, Wadena; treasurer, Dr. Paul C. Kenyon, Wadena.

The Hennepin County Graduate Nurses' Association held their regular monthly meeting at the Nurses' Club, February 9, 1905, with an attendance of about thirty. Several new members were accepted and other important business transacted. Nurses are enthusiastic in their work and the association is in a flourishing condition in connection with state registration.

At the annual meeting of the Renville, Chippewa, Lac qui Parle and Yellow Medicine County Medical Society, held in January at Granite Falls, the following officers were elected for 1905: President, Dr. G. H. Mesker, Olivia; vice-president, Dr. E. M. Clay, Renville; secretary, Dr. R. D. Zimbeck, Montevideo; treasurer, Dr. H. W. Hendrikson, Montevideo.

It is easy to make charges against a doctor, but more difficult to prove them, and sometimes it is difficult even to withdraw them, because the doctor has respect for his reputation. A druggist of Wheatland, N. D., filed charges with the State Board of Medical Examiners against Dr. F. E. Salvage, of that place, and when Dr. Salvage demanded proof, the druggist did not appear, and expressed a willingness to withdraw the charges, but he can't do so, and he finds himself in serious trouble.

It has been discovered that the late Father Kroeger, who conducted the medical institute at Epiphany, S. D., and amassed a large fortune, was not a graduate of any medical college, and was admitted to practice under a forged diploma. When the Board of Medical Examiners made their investigation of the institute and discovered this fact, the surviving partner of Father Kroeger, who is a woman, offered the Board, in writing, $1,000 for a license to continue business. The Board will no doubt take suitable action in the matter.

FOR SALE

Physician's practice for sale, and small drug store; only store in town; well established practice; large territory in Otter Tail County, Minn. Address Lock Box 9, Vining, Minn.

FOR SALE

A sixteen-plate Brunsell static machine, including fluoroscope, Crookes' tube, electric motor, cautery transformer, etc. The machine and attachments are in perfect condition and cost $300. It will be sold cheap for cash. Inquire of Dr. C. M. Oberg, 201 Globe Building, Minneapolis.

FOR SALE

A Bausch and Lomb microscope, with several objectives and oculars and other attachments and case, is offered for sale by the widow of a physician who recently died. The list price is $126.50, and the instrument is offered for $75. It is now in the possession of Prof. Thomas E. Lee, of the State University, and a full description of the instrument may be had from Prof. Lee or at the office of THE LANCET.

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WATER INVESTIGATIONS IN MINNESOTA*

COLLABORATION OF UNITED STATES GEOLOGICAL SURVEY WITH MINNESOTA STATE BOARD OF HEALTH

By F. F. Wesbrook

Director of the Minnesota State Board of Health Laboratory

AND

R. B. Dole

Assistant Engineer, United States Geological Survey

MINNEAPOLIS

During the summer of 1903 arrangements were made whereby a study of Minnesota waters was commenced jointly by the United States Geological Survey, the Minnesota State Board of Health, and the Chemical Department of the University of Minnesota. Certain stations for investigation were assigned each party of the agreement.

In pursuance of this project samples were collected at Brainerd, Hastings, Mankato, Prescott, Rochester, St. Cloud, Sauk Rapids, and Wabasha during the fall of 1903, by representatives of the Minnesota State Board of Health. Three trips were made over the territory assigned to the United States Geological Survey by R. B. Dole, Assistant Engineer, between November 25, 1903, and May 22, 1904, during which time samples were collected at Aitkin, Bemidji, Biwabik, Brainerd, Cass Lake, Cloquet, Crookston, Ely, Eveleth, Grand Rapids, Hibbing, Sparta, Tower, and Virginia. To each place visited there were forwarded by express, cases for collecting bacteriological and chemical samples. Bottles of water for sanitary chemical analysis were expressed to the laboratory; in addition the United States Geological Survey field methods for water assay were employed, by which color, odor, turbidity, chlorine, sulphates, alkalinity, total hardness, and iron were estimated at the time of collection. In the bacteriological case sent to each town there were Petri's dishes wrapped in filter paper and sterilized, a brass case of sterilized pipettes, sterile bottles for collection of samples, tubes of plain agar and lactose litmus agar for plating, and tubes containing 1 c.c. of agar for the colon bacillus test. The person collecting samples carried, in addition to the field chemical kit, labels, tags, thermometer, copper kettle, and gasoline torch for melting media. By means of this outfit, which was designed by the laboratory staff, it was possible to make plain agar and litmus lactose agar plates and inoculations for the colon bacillus examination within two hours of the time of collecting samples. The outfits with the plates and tubes were then expressed to the laboratory for incubation, examination, and record. This manner of commencing the bacteriological work in the field proved so satisfactory that it has been generally employed in all water examinations undertaken by the laboratory since that date.

Between January 1, 1904, and August 1, 1904, samples for bacteriological and chemical examination were collected by representatives of the State Board of Health at Anoka, Fort Snelling, Granite Falls, Hastings, Mankato, Montevideo, New Ulm, Ortonville, Prescott, Redwood Falls, Rochester, and Wabasha.

An important feature of the work was the securing of particulars at each town visited regard-

*Presented in the report of the Director of the Laboratory to the Minnesota State Board of Health at its meeting, January 31, 1895.

ing ice supply, water-works, sewerage, sewage-disposal works, and general information relating to quality of water in the region. Reports (U. S. G. S., forms 9-257 and 9-258) containing these data have been placed on file at the laboratory.

Summary of work on quality of streams between September, 1903, and August, 1904:

			Totals.
1.	Number of towns visited by U. S. G. S.	14	
2.	Number of towns visited by Board of Health	16	30
3.	Chemical samples collected by U. S. G. S.	79*	
4.	Chemical samples collected by Board of Health	53	132*
5.	Bacteriological samples collected by Board of Health	53	
6.	Bacteriological samples collected by U. S. G. S.	83	136
7.	Field analyses performed by U. S. G. S.	77	77

In the summer of 1904 an agreement between the United States Geological Survey and the State Board of Health was perfected by which an employe of the Survey was detailed by the Survey and appointed by the Board to do the necessary chemical work from August 1, 1904, to July 31, 1905, inclusive, in an extended examination of the streams and lakes of Minnesota. In the building formerly occupied by the Laboratory of Animal Research, there was established during August a chemical laboratory where all chemical analyses of water have been performed since that time by R. B. Dole, Assistant Engineer U. S. G. S. The bacteriological examination of water samples collected has been conducted as formerly in the State Board of Health laboratory by Dr. E. H. Beckman, Assistant Bacteriologist to the Board. In order to continue the comprehensive survey of surface waters in the state, points in each drainage area have been selected at which samples are collected at regular intervals. These stations are distributed as follows:

St. Louis drainage area	12	stations
Mississippi " "	28	stations
Minnesota " "	11	stations
Red River of North " "	14	stations
Total	65	stations

*9 samples were broken in transit.

During the fall of 1904, 82 samples were tested chemically and bacteriologically in the regular work of streams examination.

The Board has frequently been called upon to investigate the quality of present or prospective water supplies for municipalities in the state. Whenever such work has been undertaken, one or more members of the laboratory staff have visited the town, made a thoroughly minute and painstaking examination of the water-works and sources of supply. Detailed reports on the same have been made to the Secretary of the Board. Samples for bacteriological and chemical examination have been taken from such sources as were deemed advisable. During 1904, 45 chemical and 33 bacteriological examinations in work of this character were made on samples collected at Bemidji, Ely, Eveleth, Herman, Montevideo, Pipestone, St. Cloud, Stillwater, Wadena, and Worthington. The Board has investigated not only municipal water supplies in this manner, but also the domestic service of divers state institutions. Visits for the collecting of data and water samples have been made by the Laboratory staff to the State Hospitals for the Insane at Anoka, Hastings, and Rochester, and to the State Reformatory near St. Cloud, during which work 17 bacteriological and 24 chemical samples have been examined. During a typhoid epidemic at the State University 15 bacteriological examinations were also made.

Since July, 1904, endeavor has been made to discourage as much as possible the sending of promiscuous samples of water to the laboratory by physicians or others in the state. It is considered necessary to do this for several reasons:

1. The analytical data obtained from such examination are of little value to the person for whom it is made. The statement of the amount of nitrogenous matter or chlorine found in a single sample is of no significance to one who has not the opportunity of comparing the results with many more analyses and thereby forming an estimate of the comparative value of the water in question.

2. The analytical data are of even more doubtful value to the Board of Health. It is so easy to contaminate by careless handling absolutely clean water bottles that the usual condition and character of containers used for miscellaneous samples cause serious suspicion that the water sent is

not truly representative of its source. For samples of this kind greasy milk bottles, fruit jars with sticky rubber bands, medicine vials sealed with wax, etc., are often used; it transpires later that the samples were not properly taken to represent the true condition of the water; and several days often intervene before the sample is received at the laboratory, during which time it has had opportunity to change in essential features. Briefly, the laborious chemical analysis of water not secured in the proper manner is injudicious and wasteful of time and money.

3. It is absolutely impossible to gain insight into the bacteriological character of such samples. The bacteriological examination, which is of so much importance in passing judgment on a water, must necessarily be commenced at the time of collection by a trained laboratory assistant in order to be of value.

4. In the great majority of cases no information concerning the sample can be obtained without interchange of correspondence extending over several weeks with the forwarder. The importance of having at hand exhaustive information concerning sources of pollution, geological strata, construction of well, and climatic conditions cannot be overestimated. It may be taken as an axiom in water analysis that no judgment should be passed on any sample concerning which all relevant data are not at hand. It is generally impossible to obtain such information on samples of this character. Therefore the analytical data are of no value to the state as affording a permanent basis of comparison.

5. It is often the case that a thoughtful and sensible inspection of the well or spring in question is sufficient to accept or condemn it as a domestic supply; if this is done, the consumption of valuable time in performing analyses of doubtful benefit is rendered unnecessary.

6. Since the appropriation available for work on water problems is limited, it would seem advisable to expend it in such manner that the results obtained may be of value to the state at large, rather than to expend it in the analysis of heterogenous samples forwarded unsystematically to the laboratory, the results of which are of only questionable value to a limited number of people.

To this end, therefore, little attention has been given to such work during the latter part of the year except to discourage it. During 1904, 64 miscellaneous chemical examinations were made, 12 of which were performed after August 1. The Circular of Information issued July 12, 1904,* has been most useful in this work of education, and after its perusal many people requesting examinations have voluntarily endorsed the position taken by the Board.

Since the commencement of collaboration with the United States Geological Survey it has been considered especially important to secure all possible information in sections visited concerning matters of hydro-economic importance. A large amount of time has been spent in gathering data on every feature of municipal activity which has to do with water and public health or public utilities. At every place where it has been possible to do so a personal inspection has been made of water-works systems, sewerage, and effluent-discharging factories; by personal interviews there has been secured minute detailed information on all features of the water and sewerage systems, ice supply, sewage-disposal works, existence of water-borne disease, and general water resources of the region; at a large number of places photographs illustrative of pertinent points have been taken. In this manner there has been obtained for permanent file a large amount of matter in the form of photographs, maps, sketches, effluent blanks (forms 9-257 and 9-258 of U. S. G. S.), and typewritten reports of special features. More or less complete data regarding 115 cities and villages in Minnesota are now recorded.

The information thus obtained and filed for frequent reference will prove invaluable in all future work done in Minnesota on the quality of water. When special problems in any locality demand investigation days and weeks of preliminary inquiry will be rendered unnecessary by immediate reference to a file from which a complete mental picture can be formed of the city with its surroundings, its factories, the condition and equipment of its water-works, the extent of its sewerage, its geological features, its topography and other facts the absence of which make the preliminaries of investigation so time-consuming. All analyses made are filed in a similar manner, alphabetically by locality, so that they are ready for reference at any time. Even during the brief period that the collaboration

*See also St. Paul Medical Journal, October, 1904.

work has made it possible to secure these data, a number of instances have occurred where the material already on hand has been of great assistance. As an example of this the recent testing of the filter plant at the municipal water-works of Ely may be mentioned. When a request for the services of the Board was received, reference to the files showed that data concerning both the old and the new water-works were already on hand, together with maps showing the basin of the lake used as the new supply, which had been under examination for nearly a year. As another instance the city of Eveleth may be mentioned, where both Lake Ely and Lake St. Mary, proposed as possible sources of the municipal supply, had been under observation, and were included in the regular list of sampling stations. Examinations and data from Brainerd and Sauk Rapids, on the Mississippi river, were found to be of benefit in considering the water supply of St. Cloud, which is taken from the same stream. When the city of Minneapolis took up the question of filtration, examinations made and data collected at Aitkin, Brainerd, Sauk Rapids, St. Cloud, and Anoka were available, and fully utilized by the Minneapolis Water Commission. The extensive information on file concerning the water supply and city environment of Stillwater enabled the State Board of Health to act quickly and intelligently and to the entire satisfaction of the city authorities and water-works representatives when they appeared before the Board at its quarterly meeting, held October 6, 1904. It may be understood from these examples how valuable written, systematic filed information of this character is when any matters connected with individual towns or the general questions of stream pollution are under discussion.

In order to further extend the files and make available information on a larger number of cities, it is proposed to make inquiries by mail from all cities in Minnesota exceeding 1,000 population by the census of 1900 which have not been visited by representatives of this laboratory, or concerning which data for the city effluent blank is not now on file. Inasmuch as many villages of less than 1,000 population are equipped with public water-works, it is expected to extend the inquiries to places of smaller size, so that eventually a file will be compiled which will be a repository for all essential information regarding sanitary hydro-economic problems in Minnesota, and will be recognized as such.

It is proposed to send to the city clerk of each city a circular letter with a blank containing questions for him to answer in regard to matters upon which he is expected to be informed. He is asked to give data concerning sewerage, water-works, ice supply, and the names and addresses of superintendent of water-works, city engineer (if there is one), ice-dealers, well-drillers, and managers of specified industrial plants. At the same time to the local board of health is sent a similar letter and a set of questions relating more particularly to matters under its especial jurisdiction, such as typhoid fever, supervision of garbage removal, cesspools, etc. From the city clerk, health officer and other sources it is expected to obtain certain names and addresses to be used as a basis for further inquiries; to the superintendent of water-works is sent a blank for giving details concerning the system; a prominent ice-dealer is requested to give particulars concerning the ice harvest; to the city engineer are addressed such questions as are deemed fitting regarding general topography, sewerage, and drainage; to well-drillers, if desired, copies of the regular inquiry blanks of the Geological Survey are sent; to the persons in charge of large academies, colleges, state institutions, convents, hospitals, etc., are sent proper inquiries to gain knowledge of their water-supplies and disposal of sewage. In this manner it is expected to secure much desirable and necessary information which would otherwise be lacking. It is expected to obtain the names of the local managers of all such industries as are likely to furnish an effluent deleterious to streams and lakes, offensive in appearance or odor or dangerous to man or animals by the presence of poisonous or infectious material. To the management of each of these industries is addressed such inquiry as will be pertinent in learning the amount and character of the wastes from each, and any troubles experienced with the use of stream or lake waters in its present condition. These questions must of necessity be fitted to the character of each industry.

It is hardly expected that the first letter will be

answered in full detail or that the questions will be perfectly understood in every case; therefore a prominent feature of the systematic inquiry will be "follow-up" letters to request answers to questions or to secure more detailed information on specified points. It is believed that with constant care and patience the desired information can eventually be secured.

There are about 120 cities and villages in the state exceeding 1,000 population according to the census of 1900. Concerning all of these it is desired to secure the data described above. Information of greater or less extent is already on file for 61 of them. If the inquiries are eventually extended to all towns equipped with water-works and sewerage almost 100 more municipalities will be included.

SUMMARY OF HYDROGRAPHIC DATA ON FILE FOR THE YEAR 1904

	Bact.	Chem.
Examinations of streams and lakes	188	184*
Examinations at municipalities	33	45
Examinations at state institutions	32	24
Miscellaneous analyses		64
Field analyses		77
	253	394

Cities and villages concerning which more or less complete data are on file	115
Number exceeding 1,000 population	61
Number less than 1,000 population	54
Estimated number of cities and villages exceeding 1,000 population concerning which it is proposed to have data on file	120
Estimated number of municipalities of less than 1,000 which are equipped with water-works	100

*Of this number the results of 43 analyses (May 5 to June 25, inclusive) have not yet been received for file.

HOW TO SECURE BONY UNION IN FRACTURE OF THE NECK OF THE FEMUR*

By James E. Moore, M. D.

Professor of Surgery, University of Minnesota.

MINNEAPOLIS

Most old-time surgeons maintained that bony union of an intracapsular fracture never takes place. Sir Astley Cooper never saw but one case of union. Frank Hamilton gave a very grave prognosis, and admitted the possibility of union only in exceptional cases.

Most modern teachers of surgery, and all American authors except Senn, offer very little more encouragement. Dennis' "System of Surgery," 1895, says:

"As a rule a person over seventy years of age with a fracture of the neck of the thigh will be permanently a cripple, and often bedridden. The fracture (intracapsular) generally fails to unite owing to the non-approximation of the fragments, to the enfeebled condition of the patient, to lack of sufficient arterial supply, and the presence of synovia between the fragments." Scudder, our most recent author, in his excellent book, says: "In case of a fracture of the neck of the thigh bone in an elderly person, treat the patient and let the fracture be of almost secondary importance." He reports sixteen cases treated in the Massachusetts General Hospital in which there were but two satisfactory results.

In 1883, when Senn was preparing the paper which he read before the American Surgical Association that year, he asked fifty eminent surgeons if they thought bony union could take place. Twenty-seven answered yes, eighteen answered no, and five were in doubt. Half of the American surgeons thought it could not take place. All of the five German surgeons said it could. He then clearly demonstrated that most of the reasons given for non-union are not sound, and said that "the only cause for non-union in intracapsular fracture is to be found in our inability to maintain perfect contact and immobilization of the fragments during the time required for bony union to take place." In his "Practical Surgery" he takes the same position, and reports eight cases of bony union treated by his method. He also demonstrated by experiments on animals

*Read before the Hennepin County Medical Society, February 6, 1905.

that bony union will take place when the fragments are properly held in apposition.

It has been frequently demonstrated that the head of the bone has ample circulation. It does unite when properly held. It does not become necrotic as it surely would if the circulation were destroyed. The head of the humerus is not so well nourished, yet we always expect a fracture of the anatomical neck to unite. Surgeons all know that the bones of old people unite as readily as in younger people, and that most cases of pseudo-arthrosis occur in middle life.

A few surgeons have maintained for a long time that bony union can and will take place in this fracture when it is properly treated. Gurlt, one of the greatest authorities on repair in fracture, said "There is no specific tendency to non-union in any form of fracture. If the ends of the broken bones can be kept in accurate apposition union by bone will take place." He specially mentions fracture of the neck of the femur as being no exception to the rule. A number of German surgeons have taught this same truth. Dr. T. J. Maxwell, of Keokuk, Iowa, whose method of treatment I am advocating, has taught and demonstrated for over thirty years that bony union does take place, and that it will occur in the vast majority of cases when properly treated. H. O. Thomas, of England, secured bony union in all cases (over forty) by his fixation splint, and later (1892) Ridlon reported twelve cases treated in the same manner with satisfactory results. In 1897 Dr. Newton M. Shaffer reported seven cases treated by means of a long Taylor hip-splint slightly modified. Two of his successful cases are especially worthy of note because they were cases of delayed union when brought under his care. In 1898 Gillette reported three cases in which bony union was obtained through open operation and nailing the fragments together.

This is evidence enough to convince every right-minded surgeon that bony union can be obtained in these cases, and that the reason that we have so commonly failed is that our treatment has been inefficient. The old stereotyped treatment by moderate extension and long side-splint is a failure, and should be abandoned. It is our duty to accept the testimony of these men who have secured good results, and to adopt the most rational of the various methods of treatment advocated by them, and thus remove this "opprobrium of surgery."

Most surgeons agree now that the old classification of fractures of the neck into intracapsular and extracapsular is not a practical one, and that an effort to make a differential diagnosis is liable to do much harm. If the fracture is firmly impacted, proper treatment will not disturb it, and if it is not, progressive shortening will take place very soon. In the light of recent evidence it is better for us to be content with a diagnosis of fracture of the neck of the femur and to try to secure bony union in every case. In fact, we will be violating the confidence reposed in us by our patients if we do not make the attempt by some one of these successful methods.

The operative treatment must necessarily be our last resort in this as in all other fractures which are not compound, but we are very fortunate in having so good a last resource. I believe that the operative treatment of fracture of the femoral neck is destined to secure an established place in surgery, although it has been practiced in but a very few cases. Freeman of Denver (Annals of Surgery, October, 1904), has collected thirteen cases operated upon, including Gillette's three cases and one of his own. Operation has been advocated in old cases in which bony union had not been secured by ordinary treatment. I am firmly convinced that when the treatment of recent fractures of the neck advocated in this paper is more generally known and practiced there will be very few cases in which operation is indicated.

Gillette's operation is quite a formidable one. It consists in lifting a large flap consisting of the soft parts over the trochanter, together with the trochanter with its muscular attachments, and after adjusting the fragments nailing them together with an ivory peg. Freeman approached the joint through the anterior incision, such as is employed in operation for congenital dislocation of the hip. After cutting away the ligamentous union and adjusting the fragments, he held them together by a long screw introduced through a separate opening over the trochanter. He comments on the frailty of the bone and the insecure hold the screw seemed to have on it, but the result in his case was quite satisfactory. In his

case the screw was a source of considerable suffering and some infection, and this is quite a common experience with nails and screws in the treatment of other fractures when they are allowed to project through the skin. In December, 1904, I operated upon a patient 46 years of age, who had sustained a fracture of the neck five months before, and in which there was non-union. I employed the anterior opening. The ligamentous union was cut away with a chisel, and a silver-plated screw was inserted through a separate opening over the trochanter. The most difficult part of the operation was in properly adjusting and holding the short fragment while introducing the screw. The hemorrhage from the bone was very free, so free as to make it a decidedly dangerous complication. I gained the impression from this case that the screw can really be of very little use in holding the short fragment because it enters into the soft central part of the bone and its hold is very frail. Unfortunately this patient died a few days after operation from ether pneumonia.

The treatment by the long hip-splint, as recommended by Dr. Shaffer, is rational and efficient in the hands of an experienced orthopedist, but the general practitioner and most general surgeons would fail through lack of proper skill in its application. We can all understand how Thomas secured results with his splint. He was a mechanical genius as well as an orthopedist of exceptional skill. Dr. Ridlon has also demonstrated that he can secure results better than the average by means of this same splint. Aside from the fact that this splint does not afford proper facilities for preventing shortening, it is open to the same objection that we offer to Dr. Shaffer's splint. I know from personal experience that the Thomas splint is a clumsy affair, more difficult to apply successfully than any other hip-splint, and one that would surely fail in the hands of the average surgeon.

Senn acts upon the theory that since union takes place when impaction occurs, the nearer we approach impaction the more likely we are to get union. As you all know, he recommends a plaster-of-Paris splint extending from the foot to the ribs with direct side pressure upon the great trochanter by means of a pad and screw. This splint will secure the desired rest, but that the side pressure aids in producing artificial impaction, and that this impaction is desirable if secured, is extremely doubtful. We do not crowd the fragments toward each other in any other fracture. Why should we in this? The application of a plaster splint to an aged patient, who is often feeble or fat, and sometimes both, is extremely trying and something to be avoided if possible. Granted that this treatment will secure bony union, we must surely expect shortening.

Royal Whitman (Annals of Surgery, 1902, and Medical Record, March 19, 1904), teaches us that, contrary to the generally accepted belief, fracture of the neck of the femur occurs in children and young adults. In children the fracture is usually of the green-stick variety, the outer fragment being forced upward and the inner one downward. Whitman demonstrates that if the femur be forcibly abducted as a lever the trochanter and upper side of the neck will impinge upon the upper edge of the acetabulum, which becomes a fulcrum forcing the head of the femur against the lower part of the capsular ligament, thus overcoming the deformity. He holds the limb in this position of extreme abduction by means of a long plaster-of-Paris spica bandage, and reports very satisfactory results. Of late he advocates the same treatment for adults. While I can heartily endorse the treatment of this, or any other fracture of the femur in children, by means of plaster-of-Paris, I am equally positive that it is not good or safe treatment for adults, particularly old people. If the position of extreme abduction holds the fragments in proper apposition in adults where the fracture is not of the green-stick variety, it is because the capsular ligament is kept taut, and this can be accomplished by the easier, more comfortable, and safer method advocated in this paper.

The principle of extension and counter-extension by means of weight and pully to overcome muscular contraction, has long been accepted as the most rational treatment of fractures, and if it can be demonstrated that its application is simpler and easier than all others it is surely the best.

To the International Archives of Surgery of 1903 Professor Bardenhever contributed a valuable article on "Treatment of Fractures by Permanent Extension." The article is profusely il-

lustrated, showing an elaborate system of weights and pulleys for fractures of every description. From nearly nine thousand nine hundred cases of fracture treated under his direction in twenty-two years there was not a single case of non-union, fracture of the neck of the femur included.

In December, 1903, in Denver, Colorado, at a meeting of the Western Surgical Association, it was my good fortune to see the specimens of bony union after fracture of the neck of the femur presented by Drs. Maxwell and Ruth, of Keokuk, Iowa, and to hear part of a paper read by Dr. Ruth on the "Anatomic Treatment of Fractures of the Femoral Neck." The specimens and the paper were a revelation to me, and a godsend to the patients coming under my care with this fracture since that time. The fact that Dr. Ruth had published papers upon this subject in the Journal of the A. M. A., in 1899, 1901, and 1902, and I had overlooked them, led me to believe that there is room for missionary work in this field; hence this paper. He presented a number of specimens that are beyond question, which convinced me at once that his method of treatment is far superior to any other of which I have knowledge. He reported forty-two cases with 88 per cent of good serviceable union. Excluding four cases in which treatment was abandoned within four weeks, death from intercurrent malady, or those in which the injury is too recent to report, this treatment gave good serviceable limbs in 100 per cent. There was no failure to secure a serviceable limb in any case under seventy years of age, and no failure to secure union under eighty years of age.

I will describe the method briefly in my own language:

The patient is anesthetized, the thigh flexed upon the body, and lifted up so as to lift the tendon of the psoas and iliacus muscles away from the seat of fracture, as it has a tendency to crowd the soft tissues between the fragments. (See Figs. 1 and 2). While keeping up the extension on the limb, it is brought down to the natural position, and a pull of from fifteen to twenty-five pounds is applied by means of the usual long side adhesive straps and a pully at the foot of the bed. Another pull of from ten to fifteen pounds is then applied to the inner side of the upper end of the thigh by weight and pulley. The inner and under



Fig. 1.

side of the thight are protected by a binders-board on felt splint so that the pressure will be evenly distributed. This side pull is the special feature of this treatment. (See Fig. 3). It lifts the upper end of the long fragment upward and outward into place, and by making the capsular ligament taut forces the short fragment into position. The short fragment being attached only by the ligamentum teres at its apex cannot get out of place as long as the capsule hugs it closely like a coat-sleeve. The direction of this pull is upward and outward so that the resultant of the two pulls is in the long axis of the neck of the femur. (See Fig. 4.) The elevation of the side pully must be such as to overcome the outward rotation. The rotation can be changed at will by raising or lowering the side pulley. I have found a strip of gauze four inches wide and several layers thick a very convenient material of which to make the loop around the thigh, because its elasticity allows it to adjust itself to the inner side of the thigh so as to equalize the pressure. It can be fastened to the bandage which holds the felt splint to the thigh by a few stitches so as to prevent its rolling up or making pressure on the perineum. The amount of the weights to be applied is governed by the amount required to overcome the deformity in each case. The bed is prepared by placing board slats underneath a hair mattress to prevent sagging. The foot of the bed is elevated eight or ten inches, and the side corresponding to the injured hip is elevated about four inches. An ordinary iron or brass bed will accommodate itself to these elevations so that the patient's body will act as a counter-extension against both weights.

This dressing was applied to the patient upon whom I operated in December, and he stated to me the next day that he was more comfortable than he had been since his accident. I now believe that it would have been just as well, if not better, to have applied the two-way pull, and omitted the screw, which surely adds greatly to the difficulty and danger of the operation without corresponding benefit.

Since December, 1904, I have had personal knowledge of three cases. The first case, a patient of Dr. Thos. S. Roberts, was under my care throughout. The patient was a frail woman of seventy-eight years, who fell on an icy pavement and sustained a fracture of the femur. There



Fig. 2.

was crepitus and shortening of two and one-half inches at the end of three days. The treatment was carried out as previously described, resulting at the end of seven weeks in bony union without shortening. A month later she made no complaint of her hip, but was crippled by her knee, which was limbering up very slowly. Dr. Ruth advises that the weight be removed every three or four days, and the knee flexed to prevent stiffening. I did this, but it seems I did not do it thoroughly enough. After the first few days the patient was assisted into a sitting position every day, and after a time she was able to assume that position with little or no help. The weights adjust themselves over the pulleys so that the fracture is not disturbed by this procedure. My patient experienced less discomfort than any patient I have ever had with a broken femur. In fact, she experienced very little more discomfort than she would had she been confined to the bed without a fracture. She usually slept well. I visited this patient a few weeks ago, and found her walking about the house, going up and down stairs. She apologized to me for carrying a cane, stating that she was able to walk without one until she sustained an injury to her ankle about a month before. I did not measure the limb at this time, but she says that it seems to her as long as the other one. The hip is absolutely free from pain or soreness, and is freely movable in every direction. She cannot fully flex the knee.

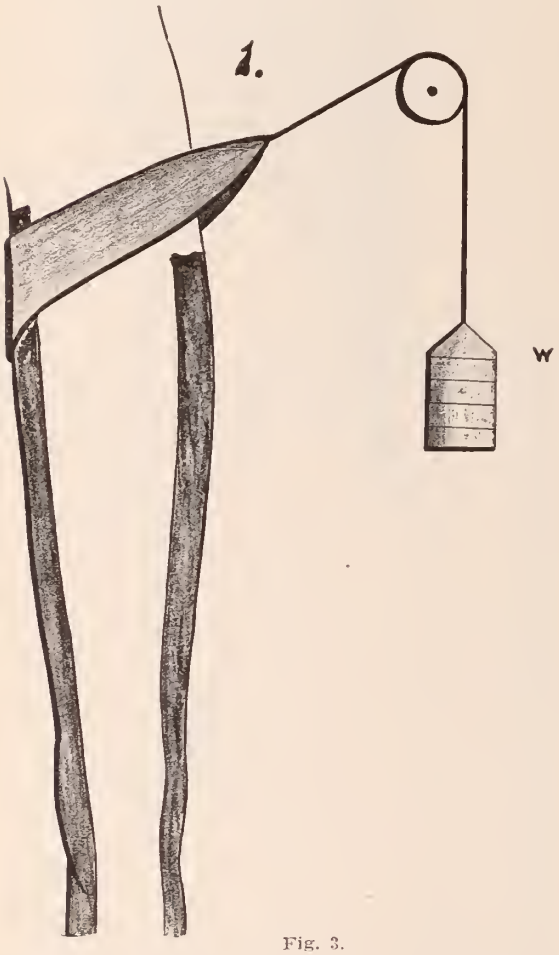


Fig. 3.

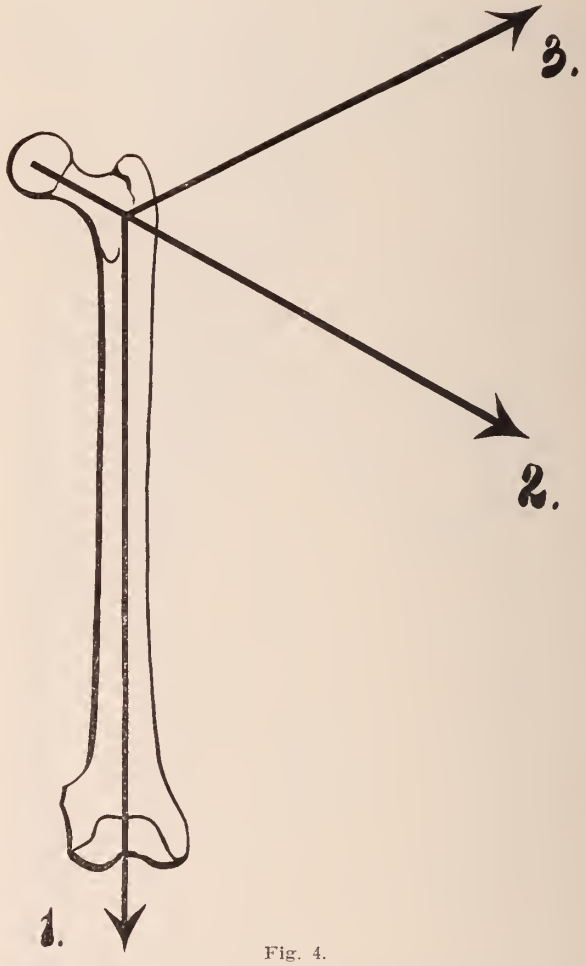


Fig. 4.

The second case I did not see, but I heard very frequent reports of her condition from my colleague, Dr. J. Clark Stewart, who applied this treatment from my description. The patient was a very fleshy woman, sixty-six years old, and the result was bony union with one-half inch shortening. She was walking about the house at the end of three months.

I saw the third case in consultation in Chicago

seven weeks after the accident. The patient was a well preserved woman of seventy-nine years. I found her at this time very comfortable and in good health, but with one inch shortening. Crepitus was present, showing that union was not taking place. She had a well adjusted long side-splint and a weight of about fifteen pounds at the foot of the bed. The foot weight was increased to about twenty pounds, and a side pull of ten pounds applied. I saw her one week later when she was very comfortable and both limbs were of the same length. I now believe that the side pull would have overcome the shortening without adding to the foot weight. The last I heard of this patient she was walking with crutches and with no apparent shortening.

At the present time I have a case of compound fracture of the neck of the femur under treatment by this method at the Northwestern Hospital. It is now three weeks since the accident, and the patient is perfectly comfortable. He has a normal temperature and one-half inch shortening. I hope to be able to give a favorable report of his case in the future.

HOSPITAL BULLETIN

ST. BARNABAS HOSPITAL

MINNEAPOLIS

ABLATION OF THE SCROTUM

By L. C. Weeks, M. D.

Detroit, Minn.

Injuries to the scrotum are comparatively rare on account of the protected position of that organ, and the literature dealing with the subject is very meagre. My own experience covering a period of thirteen years, including eighteen months' interne service in the Presbyterian Hospital in Chicago, is confined to three cases, of which the following is a report of the last case:

Sept. 21, '04, B. H——, a young man aged 26, a carpenter by trade, was working in a planing-mill. His overalls were ragged, and he had been warned to be careful not to get caught in the machinery. A vertical shaft two inches in diameter stood in one corner of the shop, about a foot from either wall. While working near this shaft the torn overalls of his right leg became caught. Feeling the pull, he braced himself against the walls of the shop and managed to free himself, but not till the overalls, pants and drawers were loosened from his waist and pulled down to his ankles. He slipped the clothing off his feet, stopped the machinery and called for help. On my arrival a few minutes later, I found him sitting on the edge of a tool chest with a coat thrown over his knees. He threw the coat to one side and said: "That's all there is left, doctor." Seeing that his scrotum was injured, I pinned on a perineal band of sterile gauze, and had him removed to his home, a few blocks away. Examination there showed that the entire scrotum had been torn off, the skin of the penis, with the exception of a ring of foreskin an inch and a half wide, had been removed, together with a strip of skin over the pubes about two inches wide.

The denuded area extended back to the anal margin, and the lower two inches of the rectum had been dissected backwards, leaving a cavity in front of the rectum that admitted the thumb. From this point in front of the rectum the edges of the wound extended forward and outward to the pubic spine on either side, and then inward to meet above the penis. The entire area was somewheat heart-shaped with the base upward. Above, in the middle line, hung the skinned penis, with the testicles below hanging separately, each from its individual cord, and covered by tunica vaginalis only. Hemorrhage was not extensive, and the pain, though severe, was not unbearable. A neighboring physician was called, the patient anesthetized, the adjacent surfaces shaved, and the wound rendered aseptic. The remaining portion of the foreskin was drawn back, and sutured to the skin over the pubes, and each testicle was anchored to its cord close to the penis by catgut sutures. A dressing of sterile gauze wet in a one-half per cent solution of lysol was applied, and the patient put to bed. The following day

he was removed to St. Barnabas in Minneapolis, and operated upon by Dr. W. E. Rochford and myself. Skin flaps with base upward were dissected from the inner side of each thigh and drawn inward over the testicles so that the lower edges aproximated, in which position they were sutured with silkworm gut. Each flap measured about five inches across and six inches from base to the free margin. The inner edges of the flaps, which became the upper edge of the new scrotum, were drawn up and sutured to the lower part of the foreskin ring. The skin above the pubes was dissected from the underlying tissues, drawn down and anchored, and the edge was sutured to the edge of the foreskin, thus covering the dorsum and sides of the distal portion of the penis. Anchoring sutures of silkworm gut were placed in the creases between the new scrotum and thigh. The areas left uncovered by the removal of the flaps were covered by dissecting up the adjacent skin, stretching into place, anchoring, and suturing with silkworm gut. Dusting powder was freely applied, and the surface dressed with dry sterile gauze. Recovery was quite uneventful. The right flap was somewhat larger than the left, and there was some sloughing of the skin on the inner side of the right thigh. Otherwise healing was by first intention, and the patient left the hospital at the end of the third week with the entire wound healed except a small granulating surface on the inner surface of the right thigh. Six weeks after the injury the patient went to work, and has been able to work ever since. Five months after operation the new scrotum is somewhat contracted, but not uncomfortably so, the testicles are well drawn up, and the penis is capable of erection.

Just what was the mechanism of the agent that caused the injury it would be difficult to state exactly, but the whirling of the shaft probably drew the pants violently to one side, and the lower portion of the scrotum was ballooned between the central seam of the pants and one of the patient's legs, so that escape was impossible. The injury was done so quickly, however, that the patient could not tell how it occurred.

The clothing of the patient was afterward picked up by one of the workmen in the shop, and the original scrotum then reposed in its accustomed place as far as the pants were concerned, but in the hurry of the moment everything was burned, and a valuable specimen lost.

The favorable results obtained in this case under somewhat unfavorable circumstances are a triumph of conservative surgery, and there need be no argument to prove that the right course was pursued. The extent of the original injury makes it a remarkable case, however, while the favorable results of the extensive skin transplantation make it doubly so.

EXOSTOSIS OF THE LEFT LEG

In the Service of Drs. W. E. Rochford and C. M. Carlaw

This very interesting case of exostosis of the left leg is reported as one of very unusual occurrence. The patient, Mr. H. F——, is 24 years old; Scandinavian descent; weight, about 175 pounds; height, 6 feet 2 inches; occupation, cook in lumber camp.

History, as obtained from the patient: When 1½ years old, leg caught in a chair, causing him



Photograph of leg, taken by Dr. W. P. Spring.

to fall to the floor, and injure his leg. (Perhaps a green-stick fracture). He remembers a growth on the front of his leg from earliest childhood, which grew simultaneously with a general development of the limb. He has always been in good health, except when about 16 years old, when, while working in the woods the leg was caught between logs and squeezed, and a number of sores formed over the bony tumor, and blood poisoning developed. After some months the sores were all healed, and remained so until four years ago. Since that time they have been opened, and have ulcerated more or less. Dusting powder or salve

will heal them, but whenever he strikes against something the skin is easily irritated and ulcerating sores form.

Examination of this growth shows it to be firm and hard, base to base in the long diameter 10 inches. The whole contour of the leg is markedly convex in front and concave behind. The tumor resembles a camel's hump as much as anything.

Patient has had no pain or inconvenience from this growth. Has always been able to work in



X-Ray of leg, taken by Dr. W. P. Spring.

the lumber camps. There has been no impairment of joint motion. Can dance and has no difficulty in getting around. From first glance one might think it a sarcomatous growth. A number of surgeons have examined this case and all agreed that it is a simple exostosis, non-malignant.

Patient was operated upon by Dr. Carlaw and myself at St. Barnabas hospital on January 24, 1905. The bony growth was found covered with periosteum, and extending up along the side the tibialis anticus muscle. The periosteum was separated and retracted back, exposing on both sides the bone. With an ordinary amputating saw of large size this hump of bone was sawed off in one large piece and then with saw and chisel more of the bone was removed; the saw opened into the medullary canal. The bone was very hard, compact and ivory-like.

Accompanying photograph and skiagraph made by Dr. Spring show this tumor well.

Two weeks after operation patient is doing nicely.

ST. MARY'S HOSPITAL

ROCHESTER, MINN.

A CASE OF URETERAL CALCULUS

By M. C. Millet, M. D.

Mrs P——, aged 32, three children and two miscarriages. At the age of 15 had diphtheria, followed by loss of speech and general paralysis lasting for several months. Since that attack has had an increasing shortness of breath, and usually swelling of feet and limbs.

During the past eight months has had four attacks of severe pain in right side at edge of ribs and around in right loin. Each attack began suddenly, was very severe, and accompanied by vomiting and great prostration. There was no disturbance of micturition, but the urine at such times was highly colored, whether from bile or blood or from lack of fluids caused by the excessive vomiting, could not be determined. Since the last attack one month ago there has been a constant dull ache in the right loin and at edge of ribs.

The above notes are taken from the case-record of my colleague, Dr. E. S. Judd. His notes on physical examination are as follows. Heart greatly dilated, sounds obscure; marked dyspnea on exertion; anasarca of extremities and face; right kidney is freely movable and slightly tender to pressure. Aside from the above the findings are negative. Urine: acid, sp. gr. 1022; albumin, granular casts; no pus or blood. A radiograph of right kidney region was negative. Diagnosis: gall-stones or renal calculus associated with above conditions.

The patient was referred to me for separation of the urines, and examination of the ureters. Catheterizing the left ureter secured urine free from casts. Urine was noted to be escaping from

the right ureter, but upon passing a catheter it was found to be arrested about an inch above the ureteral meatus. There was no abnormal condition about the meatus except that it was at the side of a slight elevation apparently of the floor of the bladder.

By substituting a metal probe for the soft ureteral catheter a stone in the lower ureter was detected. A radiograph by Dr. H. S. Plummer determined that the stone was single, and apparently about the size of a bean. As it had probably been in its present location since the last attack of colic, one month ago, its spontaneous delivery was doubtful. That it was doing harm was evident from the steady kidney pain and the presence of albumin and casts from that kidney.

The suprapubic extraperitoneal dissection would necessitate a general anesthetic, which, on account of the heart incompetence, was undesirable. An incision through the vagina under cocaine was possible with a resulting urinary fistula quite probable.

In view of the above it seemed that persistent effort should be made to remove the stone by way of the bladder. Several instruments were tried: a bent probe, wire snare, and a small pair of bladder forceps. They could be passed into the ureter readily, and be made to touch the stone, but none of them would grasp it enough to permit of drawing it down.

Discarding the instruments the urethra was cocainized, and a finger carefully introduced into the bladder until the hard mass could be felt between the end of the finger and the finger of the other hand, which was in the vagina. It now seemed a simple matter to press the stone out into the bladder; but forty-five minutes of endeavor accomplished nothing, unless it may have relaxed the parts enough to make the subsequent procedure possible. By means of the finger in the vagina, the ureter and base of the bladder were pressed upward and forward, invaginating the mass into the urethra, the finger in the bladder being used as a guide and slowly withdrawn. As the mass came into the urethra I could feel the stone for the first time uncovered. In this position Dr. Judd removed it with a pair of artery forceps.

Aside from the method of removal of the calculus the case is instructive from a diagnostic standpoint. The absence of blood or pus in the urine is rare; likewise the absence of pain along the course of the ureter, or low down in the pelvis; and also the absence of disturbance of micturition, all of which we have been taught to look for in ureteral calculus. The fact that urine escapes from the ureter is not proof that there is no calculus, and the lower ureter should be radiographed and explored perhaps more often.

Further, the case illustrates a unilateral nephritis, as evidenced by albumin and casts from one kidney, this, of course, being due to lack of free drainage.

In referring to the records of St. Mary's Hospital, I find that calculus in the ureter has been of not uncommon occurrence, there having been removed from the lower ureter two by extraperitoneal operation and one by the transperitoneal route. There were two extraperitoneal operations for ureteral calculus at the middle point of narrowing near the crossing of the illiac artery, and five from the upper constricted area about one and one-half inches below the kidney, giving, inclusive of the above reported case, a total of 11 operated cases.

SWEDISH HOSPITAL

MINNEAPOLIS

BRAIN TUMOR (PROBABLY MALIGNANT), FOLLOWING APPARENTLY SLIGHT TRAUMATISM

In the Service of Dr. Leo M. Crafts

Mr. S. P——, brought in from outside town, entered the hospital January 2, 1905, with a history of having received a blow from a boot heel in a friendly scuffle in September last. The blow was received over the right eye, but caused little inconvenience. The eye remained apparently inflamed, the condition persisting. After some weeks the upper lid began to droop, and some pain developed in the head, mostly occipital, but not severe. Vomiting came on, without nausea. There were one or two involuntary evacuations of the bladder before he came to the hospital.

On first examination he was found in a dull condition mentally, making very slow response and in monosyllables; was restless and picking at

the bedclothes; complained of continuous headache. Projectile vomiting occurred at intervals; delirium was present at times, and he refused food. There was incontinence of urine, and much somnolence. The right upper lid was paralyzed, accompanied by external deviation and prominence of the eyeball, which was also depressed nearly ½ inch below the level of the left. There were spasmodic twitches of the muscles of both sides of the face, and occasional attacks of general tremor. The pulse dropped gradually to a rate of 45, and the temperature was markedly subnormal. With the advent of somnolence the appreciation of the head pain disappeared. He lapsed into a condition of unconsciousness at times, and died suddenly during the night of January 10, as these cases of brain neoplasm so often do.

Operation was refused by the patient's relatives. There was no luetic history, and the iodides made no impression on the condition. The eye ground was examined by Dr. J. A. Watson, and a moderate optic neuritis was found, with decided congestion of the retinal vessels.

The depression and protrusion of the right eyeball with the involvement of the third nerve of the same side were the only focal indications present, but were sufficient to locate the site of the neoplasm on the under surface of the right hemisphere in the anterior fossa of the skull and encroaching on the middle fossa. The growth was probably malignant in type from the rapidity of progress, while the possibility of abscess is evident, but characteristic indications of it were absent. Autopsy was refused as peremptorily as operation had been, the patient and science suffering equally the penalty of unreasoning bigotry.

CLINICAL MICROSCOPY

Conducted by George Douglas Head, M. D.

ACUTE MYELOCYTIC LEUKEMIA

Myelogenous leukemia has long been recognized as a disease running a chronic course. Only within the last few years have cases been described which seem to warrant the recognition of an acute type of the disease. Elder and Fowler (Edinburgh Medical Journal, December, 1904) report such a case, and review the literature of cases reported by other observers. The clinical history of the case is most interesting. It demonstrates beyond doubt the value of systematic blood examinations in all cases of obscure nature and doubtful diagnosis.

A previously healthy man came complaining of giddiness, pains over his body and in his back, and general weakness. A trifling erosion of the gums was noted, but nothing else distinctive. Later the patient developed multiple hemorrhages from his stomach, bowels and nose, associated with slight fever. He gradually developed a progressive weakness, and died in six weeks. The original diagnosis was ulcer of the duodenum. The correct diagnosis was made after the blood was examined.

The successive blood examinations in the case are of interest and well worth studying. The patient presented himself December 12, 1901. On December 26th the first blood examination showed leucocytes 7,210; lymphocytes 20 per cent; polynuclears 46 per cent; eosinophiles 4 per cent; myelocytes 21 per cent; 101 nucleated red cells were seen in 500 leucocytes counted.

January 15, 1902, the number of leucocytes was 5,800; lymphocytes 28 per cent; polynuclears 56.8 per cent; eosinophiles 2.2 per cent; myelocytes 13 per cent; 100 nucleated red cells in 500 leucocytes counted.

January 6, 1902, the number of leucocytes was 12,190; lymphocytes 28.6 per cent; polynuclears 54 per cent; eosinophiles 3.2 per cent; myelocytes 13.2 per cent; 177 nucleated red cells in 500 leucocytes counted.

Jan 10, 1902, number of leucocytes 20,000; lymphocytes 29.2 per cent; polynuclears 55 per cent; eosinophiles 2.8 per cent; myelocytes 13 per cent; 780 nucleated red cells in 500 leucocytes counted.

The number of red-blood corpuscles counted

2,400,000 before death. All the uncleated red cells were normoblasts. In addition to the typical myelocytes there were many cells similar in type whose nuclei were indented rather than round.

About 12 cases of this type of leukemia have been reported. Elder and Fowler are, however, not willing to admit more than six as genuine types of the disease.

Of such great interest is the clinical history of these cases that the writer has here appended them:

Thomas & Ewing's Case: Female, 21 years; onset with sore throat, painful swelling of the arm; vomiting and fever; no hemorrhages; death in two months.

Leube and Arneuth's Case: Male, 10 years; epistaxis; anemia; enlarged spleen and liver, and great bone tenderness; death in 18 days.

Ewing's Case: Male, anemia with enlarged spleen and enlarged lymph glands; rapid course.

Grawitz' Case: Female, 42 years; onset with bleeding gums due to 14 teeth extracted; stomatitis and necrosis of the jaw; enlarged spleen, and cervical lymph glands; general hemorrhag diathesis; death in 14 days.

Hirschfeld and Alexander's Case: Male, 21 years; onset with ulcer of lip; periostitis of jaw and metatarsus; anemia; gingivitis and progressive asthenia; palpable spleen; death in two months.

Billings and Capp's Case: Male, 68 years; onset with ulceration of root of a carious tooth, followed by necrosis of the jaw; progressive anemia; gingivitis; cutaneous hemorrhage; enlarged spleen and lymph glands; albuminuria and casts; duration 2 months.

In all of the above cases the blood picture is similar in many respects to the case of Elder and Fowler. Grawitz's, Leube's, Ewing's and Billing's cases, however, all show a pronounced leucocytosis which the Elder and Fowler case failed to do. Leube's case had a most profound anemia, 256,000, which the Elder and Fowler case did not have.

All the cases agree in that the blood shows a percentage of myelocytes not seen in diseases other than leukemia. Whether or not the blood findings alone, exclusive of the clinical symptoms, would be sufficient to establish this condition as a disease entity is questionable.

Turck (Wien. Klin Wochenschrift, 1903, No. 11) describes a case which, at post mortem, was typical chloroma (green marrow in ribs, vertebræ sternum and femora), in which the number of myelocytes was 40.5 per cent, the leucocytosis 58,000; the red count of 560,000.

Here, certainly is a blood picture very similar to that in Elder and Fowler's case, and yet these authors refuse to class it as acute myelocytic leukemia.

Leube gave to his case the name of "leukanämie." He maintained that it differed from cases of pernicious anemia in the large number of myelocytes present in the blood. He admits that myelocytes occur in the blood of cases of pernicious anemia, as Lazarus has shown, but in no such number as seen in his case.

Von Yaksch's "anemia pseudo leukemia infantum" is a disease encountered in infants and growing children with a blood picture similar to that of the cases studied by Elder and Fowler.

It seems to us that the blood picture of many of the cases included in Elder and Fowler's list is too variable to warrant the acceptance of a new type of blood disease. Most of the cases probably belong to the irregular types either of pernicious anemia or leukemia.

FRESH COLD AIR TREATMENT OF PNEUMONIA IN INFANTS

W. P. Northrup reports two cases of pneumonia in infants, in which the windows of the sick room were kept open day and night; both children recovered. He believes it will become more and more the rule to treat pneumonia in this way. Cool, pure air, he says, reddens the blood, stimulates the heart, improves digestion, quiets restlessness, and aids in overcoming toxemia. He concludes with the following prescription for killing a baby with pneumonia: Crib in far corner of room with canopy over it. Steam kettle; gas stove (leaky tubing); room at 80° F. Many gas jets burning. Friends in the room, also the pug dog. Chest tightly enveloped in waistcoat poultice. If child's temperature is 105° F. make a poultice thick, hot and tight. Blanket the windows, shut the doors. If these do not do ,tigive coal-tar antipyretics and wait.—Medical Record, February 18, 1905.

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DR. WILLIAM OSLER

Dr. Osler delivered his farewell address at the University exercises at Johns Hopkins University on Tuesday, February 23d. He leaves Johns Hopkins to become the head of the medical school of Oxford University.

Dr. Osler was born in 1849; hence he is 56 years old. His last American address contains a few unpalatable ideas, and will create the impression that Dr. Osler of today is not the man he was ten years ago. The startling statements that little is accomplished by a man over forty years of age, and that men of sixty years should be retired or chloroformed will not meet the approval of many men over forty.

The doctor also says that the effective, moving, vitalizing work of the world is done between the ages of 25 and 40. This is doubtless true in many instances, yet the value and worth of experience is sought from men of advanced years, that is, over forty.

The doctor shows his age in the statement that "Americans borrow their sciences and instructors from abroad." He ignores the American product, American ingenuity, and American practicability. If his statement is worthy, he should not go to Oxford, as he has but four years of usefulness, and then he should be chloroformed.

Dr. Osler criticises the system of American medical education, the teaching of mongrel systems, and the production of ignorant practitioners—all of which is in part true, except at Johns Hopkins, according to Dr. Osler.

It seems fair to assume the existence of too many medical schools—of too many poor schools, yet many of the medical schools of this country are as well equipped with teaching faculties, and hospital and laboratory facilities, as is Johns Hopkins.

Dr. Osler is unfair in his broad criticisms, unjust in his assertions, and unfortunate in his suggestions. He might better leave this country with a gentle suggestion that would stimulate better work among medical men rather than with a crushing diatribe that condemns many able men to utter uselessness. Dr. Osler is like the pessimist that sees only the hole in the doughnut.

It is to be hoped that Dr. Osler will have no difficulties with his Oxford faculty. He will be obliged to pull himself up to their level, or they will have to come down to his semi-American ways.

Dr. Osler is admittedly one of the foremost men in medicine in the world, and his work in medical literature is standard. Naturally he is wanted at a great university, and America will miss his teachings. He ought to have remained here.

PERSONAL INJURY WITNESSES

The distrust and suspicion which surrounds the trial of a personal injury suit in court reached a climax in Chicago a few days ago when a physician confessed that he had made a false report concerning the injuries received by the plaintiff in the case. This doctor attempted to excuse himself by claiming that it was "customary to make such reports," and that many consequences "might" follow an injury.

In spite of this self-confessed liar the jury awarded the plaintiff the sum of ten thousand dollars. The case served, however, to bring out the fact that physicians do occasionally pad their report in order to bring about the settlement of claims against the city or some corporation.

It is very evident that such reports are not unfrequently given by unscrupulous physicians, and freely used by equally unscrupulous attorneys to force a settlement of unjust claims, particularly when the defendant is not aware of the existence of the injured person.

Many minor accidents occur of which no notice is taken by either corporations or individuals until prompted by plunderers. All large corporations require immediate investigation, full reports and the names of witnesses by all employees who are in any way concerned in the injury of any person, however trivial the injury may be. In spite of the watchfulness of the employee, and particularly in large cities, injuries may be alleged without foundation, and when substantial proof is wanting. It is not infrequent that cities and corporations settle many fraudulent claims because they are unable to expose the system of the spoiler. It is comparatively easy to bribe witnesses to testify to a plausible and simple statement. It is not difficult to find a lawyer who is ready and willing to aid a cheat in order to divide a claim, and it is not unheard of to find a doctor who can discover injuries in almost any organ in the body. Three conspirators can put up almost any kind of a claim based upon no injury, or none to speak of, and thus rob a public or private treasury.

Occasionally a fraud is detected and the conspirators confounded and—unpunished. Once in a thousand times a perjurer is punished, but the nine hundred and ninety-nine escape. In the large cities the number of cases settled, tried, and resisted successfully indicate the fraudulent character of so-called injuries.

Corporations often are obliged to settle without trial cases that have no merit, but which, if brought to trial, would involve more expense than a quiet settlement or meet a possible verdict that would encourage other suits.

The court sees the injustice that escapes the eye and mind of spectators, witnesses, and jurors, and is able to set aside wrong deductions and absurd conclusions, and thus discourage indiscriminate frauds. Corporations and cities, as a rule, are willing to adjust and settle just claims, but both must resist the efforts of unrighteous claims and unprincipled litigation.

Doctors will differ, and juries will disregard expert testimony and arrive at their conclusions by sentimental or commercial routes, until the system of both is changed. No one has solved the problem, and no one will without enlarging the scope of inquiry, the blending of the court and expert, and the prompt punishment of fraud and perjury.

BATTLE OF GERMS

Dr. Edward Waitzfeler, of New York, claims to have found a remedy for cerebrospinal meningitis. The remedy is diphtheria antitoxin. Eight cases were treated, five of whom recovered, two improved, and one died. Eight thousand units of antitoxin were given each case every forty-eight hours.

This report comes through the lay press, and may be exaggerated, yet it bears a suggestion that is worth thinking about and worth using in these deadly forms of disease. The idea that the toxin of one germ may slaughter germs of an entirely different family is not new, but the application in these cases reported is new. Epidemics of cerebrospinal meningitis leave behind them deaths, cripples, and defectives. Any remedy in the early stages that promises relief from either of the sequlæ is what the profession has longed for. Perchance an antitoxin may be found beside tuberculin that will prevent the ravages of tubercular meningitis.

Our remedies against bacterial diseases must come from the laboratories; fresh air and cleanliness are not enough to overcome deep-seated invaders. Tissue changes or blood states demand a searching and direct combatant. The circuitous method of drugs is uncertain and disappointing.

SUBSTITUTION A GROWING EVIL

The substitution of drugs is becoming an evil of such magnitude that the profession will soon be obliged to take steps to protect itself. The New York papers of October 9th and 10th contain long accounts of a band of counterfeiters who have been selling, in enormous quantities, imitations of drugs in almost universal use among physicians, and the imitations were in some cases almost valueless, and in others were dangerous.

It is said that one German firm has spent $100,000 in following up these men. If we are not yet aroused to the importance and the dangers of this subject, let us suppose that Prof. Dunbar next season puts upon the market his pallentin, and when it begins to come into general use, some chemist sends out a cheap but dangerous substitute. Where will it leave the profession? What effect may it not have upon untold numbers of suffering patients?

Does not the profession owe it to the public to

do all in its power to break up such a practice, whether the drug substitute is cheap and inert, or is cheap and dangerous? Of course, the profession cannot raise a fund to ferret out and prosecute men engaged in this business, but every physician can well afford to take some pains to ascertain that his prescriptions are properly filled, and when he learns the name of a substitute he can refuse to give him patronage and to warn his patients against such a man.

This is no plea for manufacturers of this or that preparation, but it is a plea for honest dealing with patients and for the protection of their health and lives.

REPORTS OF SOCIETIES

HENNEPIN COUNTY MEDICAL SOCIETY

F. A. Knights, M. D., Secretary

A stated meeting of the Hennepin County Medical Society was held February 6th, Dr. D. O. Thomas, president, in the chair and about seventy-five members present.

The Executive Committee reported by the secretary giving itemized account of receipts and expenditures for the year 1904, properly audited, showing the funds now on hand to be $115.98. They also presented an estimate of the expenses for the year 1905, showing the amount to be raised from dues to be approximately $1,400.00. The report and estimate were received and ordered placed on file, and the dues for 1905 were fixed at $7.00 per member.

Dr. J. S. McNie, P. and S. of New York, 1896, 610 Pillsbury Bldg., made application for reinstatement.

The Censors reported favorably upon the names of Drs. A. E. Johnson, Geo. H. Coffin, Geo. D. Crossette, Arndt E. Ofstad, M. A. Kiefer, and L. Jos. Coria, who were all elected to membership.

Dr. H. L. Staples moved the adoption of the following resolution: Resolved, That our delegates to the State Association be instructed to work and vote to abandon the publication of the papers in the Transactions of the Association. The motion was carried.

Dr. J. G. Cross made a report for the Anti-Tuberculosis Committee of the Associated Charities, and distributed registration cards and pamphlets containing information about the work of the committee and its plan of organization. The report showed the number of cases cared for to be 74 for the past year, most of them cared for by a visiting nurse, insuring treatment and registration of patients and instruction as to methods of preventing infection.

Dr. A. W. Abbott presented the following resolution: Resolved, That all business matters coming before the Hennepin County Medical Society, except election of officers, election of new members, and fixing of dues and assessments, be referred without debate to the Executive Committee with power to act; providing, however, that any member may object to such reference. Dr. Abbott moved that this resolution be referred to the Executive Committee without debate, and his motion prevailed. Mr. G. F. McNeill, of the Northern Pacific R. R., addressed the Society for five minutes, speaking of the plans of his road for the trip to the A. M. A. meeting at Portland, Oregon, July next, and asked an expression of approval of the plans from the Society, which request was granted by motion.

Dr. L. A. Nippert, for the milk commission, presented a request that certain bills for printing of labels for certified milk be paid by the Society, the Executive Committee having requested the Milk Commission to confer with Mr. Irwin concerning them. The Milk Committee was granted further time in which to confer.

The president announced the appointment of Dr. A. E. Benjamin and Dr. Geo. P. Crame on the Library Committee.

Dr. J. E. Moore read a paper on "Fractures of the Neck of the Femur" with illustrative charts describing his method of treatment. (See page 85.) Dr. Rochford, Dr. J. Clark Stewart, Dr. Little, and Dr. Mann joined in the discussion which was closed by Dr. Moore.

Dr. W. P. Spring showed a considerable number of lantern slides and negatives illustrating *x*-ray work in diagnosis.

Dr. E. J. Brown read a paper on "Optical Quackery."

Dr. F. C. Todd exhibited a giant magnet, and reported two cases of extraction of fragments of steel from the arm by its use.

Dr. C. D. Harrington exhibited apparatus for producing stereoscopic effect with *x*-ray negatives.

NEWS ITEMS

Dr. J. D. McConnell has given up practice in Fargo, N. D.

Dr. Gustav Golseth, formerly of Ashby, is now located at Battle Lake.

Dr. Francis N. Phelan, of Duluth, died last month from pneumonia.

Drs. Donovan and Brooks of Langdon, N. D., have dissolved partnership.

Dr. W. G. Wendell, an eastern physician, has located in Enderlin, N. D.

The new Pipestone Hospital, of Pipestone, has been opened to the public.

Dr. A. E. Voges, State University, 1903, has moved from Good Thunder to St. Michaels.

Dr. C. E. McReynolds has moved from Underwood, N. D., to Goodrich, in the same state.

Dr. J. B. Dunn, of St. Cloud, is doing postgraduate work at Rush, making special study of stomach diseases.

Dr. E. E. McStay, of Waterloo, Iowa, has become associated with Dr. R. S. Ramsey, of Grand Forks, N. D.

Dr. L. B. Dochterman, after practicing successfully in Bottineau, N. D., for five years, has moved to Williston, N. D.

Dr. A. A. Heineman, of Parkston, S. D., has sold his practice to Dr. G. A. Landmann, and will move from Parkston.

Dr. E. S. Strout, Minneapolis, has been in London for some time taking a special course at the Moorfield's Eye Hospital.

Dr. Andreas Klovstad, of Yankton, S. D., has moved to Mascot, in this state. Dr. Klovstad is a graduate of Christiana.

Dr. Olaf Sand, of Pelican Rapids, has moved to Fargo, N. D., and entered into partnership with Dr. Thames of that place.

The partnership hitherto existing between Drs. C. P. Spottswood and John T. Shelland, of Hankinson, N. D., has been dissolved.

Dr. T. N. McLean, of Fergus Falls, is traveling in Old Mexico. Dr. K. J. Lee has charge of his work during Dr. McLean's absence.

Dr. Hans Johnson, a recent graduate of the State University, has located at Spicer. He is the son of Dr. Christian Johnson, of Willmar.

Dr. J. W. Bell, of Minneapolis, has returned from an extended trip abroad, taken for a rest and for study with some of the greatest medical men in Europe.

Dr. Talbot Jones and Dr. H. L. Taylor, of St. Paul has been appointed by the mayor of St. Paul as delegates to the first annual meeting of the American Anti-Tuberculosis League, to be held in Atlanta, Ga., April 17-19.

Dr. A. H. Lindley, of Minneapolis, died last month. Dr. Lindley graduated at Jefferson in '57, and came to Minneapolis about 1860. He was associated with Dr. Nathan Hill until the latter's death in 1875. He was 83 years of age.

A murderous attack was made last month upon Dr. Philip Mueller, of Minneapolis, by thieves who secreted themselves upon the porch of his residence. His coachman, who went to his rescue, was shot, and has since died. Dr. Mueller was not seriously hurt.

The present house physicians and surgeons, and those who have hitherto served in such capacity at the City Hospital of Minneapolis, have formed a club to work for the advancement of the service of the hospital and to advance goodfellowship among the hospital's friends. Dr. Hugh Willson is president and Dr. James Ballard is secretary of the club.

The annual meeting of the Nicollet County Medical Society was held the last of January in St. Peter, but hereafter it will be held in Le Sueur. The following were elected officers for 1905: President, Dr. H. B. Aitken, Le Sueur Center; vice-president, Dr. F. P. Strathern, St. Peter; treasurer, Dr. D. A. Kirk, Le Sueur; secretary, Dr. J. E. Le Clerck, Le Sueur.

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HEADACHE: ITS CAUSE AND CURE, WITH ILLUSTRATIVE CASES*

By E. Frank Reamer, M. D.

MITCHELL, S. D.

Headache in most instances is only a symptom. In some it is the most conspicuous symptom, while in others it is the only symptom, and may assume the dignity of a distinct disorder by itself. The kind of headache that I am most interested in, as an oculist, and what I shall speak of to-day, is that due to eye-strain caused by some error of refraction, and particularly that due to astigmatism. In my experience, and I believe in the experience of every oculist, astigmatism causes more headache and eye disturbances than any other form of error. Hypermetropia, or far-sight, comes second, and insufficiency of the external ocular muscles third. Myopia, per se, does not cause headache. Of course near-sight when combined with astigmatism is a factor in its production.

It was Donders, I believe, who first gave us a definite idea of what astigmatism is, and how to correct it. It is divided into regular and irregular. The last named I shall consider very briefly because it offers so few means for its relief.

"Regular astigmatism is that condition of the cornea, or lens, in which the refraction is different in the different meridians of the eye."

In irregular astigmatism we not only have a difference in the curvature of the meridians, but also a difference in the curvature of a single meridian, generally caused by some former disease of the cornea, as ulcers, pannus, etc. This condition of the irregularity of the cornea is extremely annoying to the patient, as he sees all objects in a blurred, distorted condition. It is obvious that glasses will not correct this condition and our means of relief are limited indeed. In studying regular astigmatism we consider only the two principal meridians, and these we find are always at right angles to each other. The intermediate ones having no focal point we leave out in our calculations.

This subject, gentlemen, is not new, nor one unknown. On the contrary, it is well known by physicians, and by many of the laity, that eye-strain is a common cause of headache. But for all that, it is too often forgotten by physicians, as every oculist discovers day after day. One thing that is often deceiving, and not always known, is that a person may see well, and yet there be a defect in his eyes.

A lady was in my office a short time ago who has been treated for years by a competent physician for headache, without success, and she insisted that her eyes were all right, "for I can see just as well as anybody, and I'm sure my eyes have nothing to do with it." She repeated this several times during the examination. I found her vision 20-30 in each eye, and nearly one full dioptre astigmatism, axis vertical. It was corrected with a plus cylinder, and I am confident her headaches are improved, though I have not seen her. Examination with the test-card at twenty feet may show 20-20, or normal vision in many cases. With this rough examination, eye-strain is too often thrown out entirely, and if the physician does not find the cause, or cure the pain, the patient drifts to another physician, and he repeats the same process.

Good vision does not mean good eyes, although it is generally so considered by the laity. It was Dr. S. Weir Mitchell, who in 1874 pointed out to

*Read before the Fourth District Medical Society of South Dakota, April 13, 1904.

the profession the fact that refractive errors were frequently the cause of headaches, as well as other neuroses. Before that time the relationship between the two was not much understood, and less believed, and ever since prejudice has had to be combated which has been harder to overcome than to learn the fact. The object of this paper is to bring before your minds, once again, the simple fact that many cases of suffering can be relieved and cured by proper-fitting glasses. And the cases I recite are only a few out of many in my experience, where headache had persisted for months, even years, and were completely relieved by glasses. The case of longest standing was of thirteen years' duration, which was relieved completely within a week. Mrs. R——, aged 33, housewife, assisted her husband in general merchandise store. Family history and health good. For 13 years she has had headache regularly, not every day, but always when she tried to do any reading or sewing, much worse at times, so that no close work could be done for days. The ophthalmometer showed one-half to three-fourths dioptres astigmatism, axis horizontal in each eye. Test card and lenses showed her acceptance of minus 0.50 axis 135 right eye, and minus 0.50, axis 180 left eye. These I prescribed, which completely relieved the head, and she was able to do almost as much near work as anyone with perfect vision.

I have gone over my records of nearly six hundred cases, and picked out one hundred and fifty where the amount or corneal curvature was one, or less than one dioptre, and where the headache was the most prominent symptom, or one of the most prominent, and the few cases I present are average cases or given for some special point of interest in them.

When I was doing post-graduate work at the Manhattan Eye and Ear Infirmary in New York a number of years ago, the instructors there taught us to disregard or to allow one-half dioptre from the reading of the ophthalmometer as normal, or so nearly so that it was unnecessary to correct it. They used the old-style Javal at that time. When I began eye and ear work exclusively I soon found that I could not do that, for it was just that class of cases where the amount was small, many times only a quarter or half dioptre, that was causing the most annoying symptoms. I use a Hardy ophthalmometer, and have always found that I can follow its readings very closely and exactly if my lens and retinoscope agree. Of course every oculist finds that he must depend, for a final result, upon his lenses after he has located the axis and knows about what the amount of astigmatism is. The optician in his brief course in the mechanical part of fitting glasses, is the one who usually disregards or probably I should say, does not find the small amount of unequal curvature, and so he prescribes a sphere of varying strength, which in most cases relieves but little or not at all, and not a few times makes worse. Ninety per cent of the cases which come to the oculist for this error are young people, nearly all under thirty, and, if over that age, it is of long standing; or they come because of their inability to get relief from drugs, or from dislike for glasses or distrust in them. Of the one hundred and fifty cases that I speak of, only eighteen were over thirty, and only three were over thirty-five. The two following are so nearly alike that I give them together.

Mr. C—— and Mr. S——, each aged 38, one a farmer and the other a driver of an oil wagon. Both, besides having had severe and almost constant headaches for years because of near work, have also had severe headaches from riding or driving on the road. Mr. S——, whenever he goes to town, goes home with a bad case of head pain, amounting almost to migraine, so that he would have to lie down and close the eyes for some time before relief came. Each had one-half dioptre in one eye and three-fourths in the other, one the axis horizontal, the other vertical. Both were entirely relieved by the correction of their astigmatism, and have remained so for over a year.

The two following cases were sisters, and the symptoms much the same. Miss A——, aged 22, school teacher, two and one-half years ago had neuralgia of the left lower jaw, and a chronic suppuration from a tooth in the same jaw, headache, pain in the eyes, face, and jaw, capricious appetite, etc. A dentist treated the tooth for months, and finally stopped the discharge, but not the pain. After a year she went to Chicago to a competent oculist, who refracted her, and prescribed plus cylinders of one-fourth dioptre, axis 90, for constant wear. These not only re-

lieved the head and eyes, but also completely cured the tooth. About one year after the pain in the head and eyes returned, but the pain in the jaw did not. Another oculist of this state prescribed minus cylinders of greater strength, axis horizontal, but they did not relieve.

For six months before coming to me she had suffered much with head and eyes, appetite enormous, could scarcely get enough to satisfy, was sleepy and drowsy nearly all of the time. In my examination I found one and one-half dioptre astigmatism, axis vertical, besides a half dioptre myopia. For this I prescribed in each minus .50 sphere over plus .75 cylinder, axis 90. These relieved completely all symptoms, including the exaggerated appetite. Since then I have added a little to each cylinder, once when she broke a lens, and once when she had some head symptoms again. She now wears the one-half dioptre minus sphere over plus 1.25 cylinder, axis 90, with perfect satisfaction.

The younger sister, aged 19, presented practically the same history as the older: pain in eyes, forehead, and teeth, and in upper jaw on one side. She, too, patronized the dentist, and without effect, until proper cylinders were prescribed, which cured her. The amount of astigmatism in this case was less, being not quite one dioptre.

Another sister whom I refracted had a half dioptre, also the mother, but neither had the tooth symptoms. I corrected the mother's defect in her presbyopic glasses, as in my experience that is all that is necessary in nearly all cases, if they have always gotten on before without glasses.

The next case is also interesting from the fact that two opticians had examined and prescribed glasses for him, one four times, the other twice. One said that he was near-sighted, the other far-sighted, and each prescribed accordingly. Mr. L——, aged 32, bookkeeper, poor eyes for fifteen years, constant and severe headache, unable to get medicines to control it. R. V. = 6-200. L. V. = 20-20, minus. Ophthalmometer showed one dioptre astigmatism in right, axis 90, and one in left, axis 120.

As you notice, he was doing all his work with his left eye. The right had turned out about 30 degrees, and had done so as long as he remembers. With plus .75 cylinder, axis 90, vision = 20-100, could not bring up more. I prescribed right and left plus .25 sphere over plus .75, cylinder 90 and 120. The weak sphere was given because he had been wearing spheres and because all his work was close work. One week after getting glasses he reported that he had had no more headache. That was one year ago, and I have added a little to the cylinders since, and he reports no headaches, if he does not abuse his eyes.

The next two cases I give only to show what lack of skill some men disclose who advertise "Eyes Examined Free." Miss H——, aged 21, milliner, complained of headache every day, eyes painful and irritable. She had been wearing a plus sphere of 1.75, or trying to do so, which made the head worse, of course, than with none. The ophthalmometer showed right eye three-fourths dioptre astigmatism, axis nearly verticle; left, one-half dioptre, axis same.

I prescribed for the right eye plus .25 over plus .50, axis 105; for the left eye plus .25 over plus .25, axis 75. She would not accept a higher cylinder at this time. That was in April, 1903, and she does all her work comfortably, and some fancy work besides.

Another case. Mrs. S——, a farmer's wife, aged 21, had to quit school, when younger, on account of eyes, headache, etc. The ophthalmometer shows right and left one-half dioptre astigmatism, axis 180, or horizontal. She had been trying for three years to wear minus spheres of two dioptres, not with success, however. I prescribed minus .50 cylinder, axis 180, in each eye, which gave perfect vision and comfort.

Quite frequently the adjustment and style of frame worn will effect a proper correction, as the following case shows: Dr. R. J. L.——, dentist, had been wearing eye-glasses for several years while in college, but when he got to working over a chair all day in practice he found that the eyes were paining him again, as they did before he put on glasses. Examination shows astigmatism in right eye, one-half dioptre, axis 80; left = three-fourths dioptre, axis 90. I suggested that he use a riding-bow frame, rimless, which he did. He complained no more, and now will have nothing but riding bows.

I will not weary you longer, although I could enumerate many more like cases. I only ask

that in the busy rounds of your daily practice when you find a case of severe, continued headache, and you have expended already too much of your spare time and energy upon it, that you look to the eyes, and if you do not find any apparent lessening of the visual power, that you will try, if the patient be under forty, a good mydriatic for a week, and see if there is a cessation of the attacks during the time that the pupils are well dilated. If not, no harm is done, and if there is a cessation you have a right to insist that your patients consult a competent oculist. While I have no objection to the optician's fitting glasses, I do believe that he should spend time enough to become competent to at least recognize the difference between the three most common defects that the human eye is heir to, viz.: myopia, hypermetropia, and astigmatism.

UNDESCENDED TESTES, WITH REPORT OF CASES

By Walter Courtney, M. D.

BRAINERD, MINN.

Undescended testes while not of frequent occurrence are sufficiently common to merit our faithful attention, in view of the importance they are likely to assume in various ways. It is not the writer's intention to discuss the other and rarer anomalies of these organs, nor to deal with the more purely scientific aspect of the titular subject by going into the embryology, histology, minute anatomy, etc., but, rather, to give consideration to the practical side of it.

Absence of the testes from the scrotum may be due to retention of the organs within the internal ring (cryptorchism); within the inguinal canal, or just outside of the external ring; or to perineal or femoral ectopy and congenital absence (anorchism). The most common sites of detention are the inguinal canal and just outside of the external ring. When placed just without the external ring, they can often be pushed into the canal, or drawn there by cremasteric muscular action.

The testicles are situated during the fetal state within the abdomen, just below the kidneys, and begin their descent toward the scrotum about the sixth month, traverse the inguinal canal during the eighth month, and reach the scrotum during the ninth month, or soon after birth. A pouch of peritoneum descends with the organ, and forms its tunica vaginalis. The communication of this sac with the peritoneal cavity usually becomes obliterated in the funicular portion about or soon after birth: remaining open, it permits congenital hernia or congenital hydrocele. The gubernaculum, which regulates the descent of the testicle, passes up behind the peritoneum in front of the psoas muscle, and is attached to the lower part of the testicle and to the epididymis and vas deferens. It then descends through the inguinal canal, and dividing into three parts is attached as follows: the external part to Poupart's ligament in the inguinal canal; the middle part passes through the external ring, and is attached to the bottom of the scrotum, forming the mesorchium; the internal part takes an internal direction, and is attached to the os pubis and sheath of the rectus abdominis muscle.

CAUSES OF UNDESCENT OF THE TESTICLE

Prenatal or congenital peritonitis may, by plastic inflammation, fix and detain the testicle within the abdominal cavity. Faulty contraction of the gubernaculum may result in undescent into the scrotum or in crural or some other form of ectopy. At times the external ring is too small to permit the exit of a testicle from the canal. A shortened cord may prevent migration. A large epididymis may also prevent passage through and out of the canal. The application and wearing of a tight-fitting truss in infancy and before descent, is very likely to result in permanent retention of the testicle within the inguinal canal.

It is said that the left testicle fails of descent more often than the right. It is also said that there is a hereditary tendency in some cases towards undescent.

We have now reached a point where it is of great importance to consider the results of undescended testes. The usual rule is where there is double undescent the individual is sterile, be-

cause of absence of spermatozoa, though he may not be impotent. Hunter, Astley Cooper, Curling, Griffiths, and others have shown sterility to be the rule in such cases. This rule, however, like all others, is subject to exceptions. Should severe inflammation in early life cause atrophy of these glands and their adnexiæ (the epididymis and vas deferens), development of masculinity would be prevented. If some vestige of any of these remains, masculinity will not be absent. We see, therefore, that the testes have a twofold function at least, namely, procreation and development of masculinity. What we might term the accidental complications of undescended testes are sometimes very serious affairs indeed. Hernia is a rather frequent accompaniment, or accident, in connection with these cases. The hernial contents usually lie in contact with the testes, to which they are likely to be adherent. These herniæ are very likely to become strangulated. Sometimes we may find a hernia in the upper part of the funicular process and a hydrocele below, with obliteration between.

Owing to its exposed position, an undescended testis is very liable to injury, with resulting serious inflammation, which may extend to the peritoneum. Posterior specific urethritis may extend, as in normally placed organs, and cause orchitis or epididymitis, or both. In such a case the pain is intense because of the unyielding nature of the surrounding tissues. Torsion of the cord in undescended testes is an occasional complication. Malignant degeneration is asserted to be much more common in retained testes than in normally placed ones, the malignancy being either sarcoma or encephaloid carcinoma.

The diagnosis of undescended testes in early life (childhood) is of the utmost importance in view of the probable value of early and proper treatment. It means much to the patient whether his future virility and masculinity are to be assured or not. It is of incomparable importance to him whether an inguinal tumor be treated as a hernia, by putting on a tight-fitting truss, or recognized as an undescended testicle, and placed where it should be by a careful operation. The error in diagnosis is liable to arise from carelessness in not ascertaining whether the scrotum is empty or not. In the physical examination of male children, the scrotum should always be examined, to learn of the presence or absence of the testes.

The diagnosis of an accompanying hernia should not be technically difficult. The diagnosis between an inflamed, retained testicle and a strangulated hernia may present considerable difficulty and be of great importance in view of the treatment to be followed on the one hand or the other. In such a case it is well to remember that both may occur simultaneously.

The diagnosis between orchitis and epididymitis in an undescended testicle may be assisted in aid of the latter, if urethral discharge is present.

The diagnosis of malignancy will be shown by slower onset, constant pain, enlarged anatomically related glands, and brawny swelling, with distended bluish veins over the tumor, etc.

Treatment.—While we are told in our text-books that an undescended testicle may reach the scrotum any time before puberty, experience teaches us that if descent has not occurred by the time the patient has reached the age of 7 or 8 years, it is altogether unlikely to do so afterwards. In view of the fact that a detained testicle is not likely to develop and functionate properly, and is likely, sooner or later, to cause serious and even dangerous complications, it would seem as though there could be no controversy about the wisdom and propriety of undertaking, at an early date, the form of treatment which would promise the best general results. The method of treatment that promises most, with a minimum of time and a maximum of certainty, is a surgical operation for transplantation of the testicle into its proper place. A carefully performed operation is not dangerous. Other forms of treatment intended to accomplish proper placement of the organ are tedious of execution and usually disappointing in results.

It is scarcely necessary to describe the operation, as most up-to-date text-books do this; however, I will briefly review the steps of the one I have found most useful: An incision is made along the inguinal canal, the cord and testis exposed and freed, the cremaster muscle divided, so as to favor drawing down of the testicle; if this can be accomplished the scrotum is opened by blunt dissection, the organ placed within and fastened there by a silk stitch, which passes through the tunica albuginea and the inside lay-

ers of the skin at the bottom of the scrotum. The cord can be stitched to Poupart's ligament to prevent retraction, and the surrounding scrotal tissues sutured about the cord down to the testis. The inguinal canal should be closed as in a herniotomy.

The treatment of the complications of undescended testes must be met as they arise, and do not require special definition and description at this time.

The cases I herewith submit are reported with special reference to what has been said as regards diagnosis and treatment:

Case 1.—H——, male, aged 14 years, was admitted to the hospital August 13, 1902, having been sent to me with a diagnosis of right inguinal hernia, and a request that I do an operation for radical cure. Examination showed the scrotum empty on both sides; the right testicle in the inguinal canal at the internal ring; the left testicle could not be palpated at all, and was diagnosed as within the internal ring. The boy presented a healthy and very well nourished, but rather effeminate, appearance. Masculinity was noticeably undeveloped considering the age of the patient. A palpable testicle in the right inguinal canal had been mistaken by the family physician for hernia, and the undescent of both testicles unnoticed and undiagnosed.

August 14th.—Operation according to method already described. The right testicle was found well up to the internal ring. It was drawn down, and after division of the cremaster muscle, it was placed in the scrotum, the latter having been opened by blunt dissection. On opening the left inguinal canal, the testicle was found within the internal inguinal ring. After much effort, it was found impossible to advance it further than just outside of the external ring, where it was anchored, with a view to another attempt at some subsequent date, to place it within the scrotum. The funicular process was found open and communicating with the general peritoneal cavity on both sides, and was closed by suture to guard against future herniæ. The patient made an excellent recovery and was discharged September 9th, with the right testicle down in the scrotum, and the left slightly retracted within the external ring. The patient so far has not returned for further operation on the left testicle, and his physician, to my inquiry as to his present condition, answered on April 21, 1904, as follows: "In H——'s case the right testicle has remained down since the operation, and has developed proportionately with the growth of the body. The left testicle is in the canal, and can be brought by pressure partially through the external ring. The penis has developed well, and as far as I can determine is now in as mature a condition, both organic and functional, as in the average boy of his age."

Case 2.—S. M——, male, aged 21 years, stationary fireman, admitted to the Northern Pacific Hospital, Brainerd, Minn., December, 1902, with the following history as given by the patient: "Has had a rupture on the right side for three years past, which never came down into the scrotum, has always been easily reduced, and has worn a truss until about a month ago. This morning while lifting, the rupture came down, but he continued working, expecting to reduce it after finishing his work, always reducing it easily himself. He was, however, unable to reduce it this time, and being taken with severe cramps, called a physician, who diagnosed strangulated rupture, and being unable to reduce it, sent the patient to the hospital for operation."

On admission to the hospital, examination revealed an undescended right testicle, just external to the external inguinal ring, swollen, painful and tender to touch; also strangulated inguinal hernia on same side. Left testicle in scrotum. Gonorrheal discharge from urethra present. The field for operation having been prepared, the patient was anesthetized with chloroform, and attempt at reduction of hernia by taxis failing, operation was proceeded with. A portion of the small intestine, congested and dark in color, was found within the sac, and extending somewhat below the testicle. A slight incision of the upper part of the internal ring overcame the strangulation, and as free circulation at once returned in the bowel, it was permitted to go back into the abdominal cavity. Examination of the testicle showed it to be softened, swollen, and, apparently, an epididymitis present. There was a condition of torsion present in the cord. As the testicle could not be advanced into the scrotum, castration was performed, and the wound

closed as in radical operation for hernia, except that drainage was employed. The patient made an excellent recovery, and was discharged cured, January 12, 1903.

I regret that the epididymis was not carefully searched for the gonococcus, as I feel morally certain specific infection was the prime factor in this case.

Case 3.—G. W——, male, aged 9 years, was admitted to the hospital December 8, 1903. The family physician had diagnosed double undescended testicles, and sent him to me for operation. On examination the diagnosis was confirmed. Both testicles were found in the inguinal canals, but could be forced through the external rings by pressure. This boy, while very well nourished, was lacking in the masculine appearance of boys of his age. He had marked nasopharyngeal obstruction, due to adenoid growths, and, as a result of an infected wound of the right heel, received during the previous summer, he had a subtendinous enchondroma, which was very painful on touch.

December 9th, under chloroform anesthesia the undescended testes were operated upon, and both brought down and anchored to the bottom of the scrotum by the method heretofore described. In addition, circumcision was done for phimosis and an elongated prepuce, the enchondroma was removed, and the nasopharynx cleared of adenoids. To prevent disturbance of the dressings and wound infection, the patient was put in a Hamilton frame, such as is used in fracture of the femur in children. Recovery was uneventful, and the patient was discharged January 2, 1904.

A recent letter received from the family physician informs me that both testicles are in normal position in the scrotum.

Since this paper was begun, the writer has been informed of failure in diagnosis in two important cases of undescended testicles. As they emphatically emphasize what was said under diagnosis and treatment, I feel, even at the expense of being considered prolix, that a brief report may add greater weight to what has already been said. One of our ex-internes, who left us at the termination of his interneship, nine years ago, stated to me that some time ago a boy was brought to him wearing a truss for a hernia, and on examination he found an undescended testicle. Two trusses had been fitted to this patient by two different surgeons practicing at widely different points. Both are excellent men in their profession, and one has eminent standing in his state.

The second case was related by a very capable and bright young surgeon of my acquaintance. He was called to a man suffering severely with pain in the inguinal region. He diagnosed the case strangulated hernia, sent the patient to a hospital, and with his partner, a well known and competent surgeon, operated upon the case. When the inguinal canal was opened, they were non-plussed for a few moments by the appearance of something more than a mere hernia. Examination of the scrotum showed it to be empty on both sides. The unfamiliar and unlooked for object in the inguinal canal was an undescended testicle.

SOME PRINCIPLES OF THE MODERN TREATMENT OF CURVATURES OF THE SPINE*

By Emil S. Geist, M. D.

MINNEAPOLIS

The title of this paper was suggested to the writer by casual conversations with several medical friends; and the general tenor of these conversations might be summed up in the question: "What can be done for a case of lateral curvature besides giving a brace?"

As the indications for treatment of all pathologic conditions are based on the understanding of their etiology and pathological anatomy so is the treatment of scoliosis, rotary lateral curvature, founded on this axiom. It would be well, therefore, to consider for a few moments those phases of the causation of scoliosis which we must bear in mind in directing treatment against this condition. It is true that when one speaks

*Read before the Minneapolis Medical Club, February 15, 1905.

of the etiology of scoliosis one is broaching a subject not nearly settled in the minds of the foremost of orthopedists, and every theory advanced has not lacked, nor is lacking, its opponents. Enough, however, is definitely known to enable one to follow an intelligent plan of treatment in a given case with probabilities of at least partial success in correcting the deformity and of entire success in checking its increase.

There are many types of lateral curvature of which the etiology is very clear because they represent a compensatory deformity. Thus in any condition when there is a tilting of the pelvis (as, for instance, when one leg is shorter than the other) the spine accommodates itself to the new static conditions, and as a result there is a primary lumbar curve in one direction followed by a dorsal curve in the other direction. Here, of course, the giving of a high shoe on the affected side is the chief step in correcting the deformity. There are other varieties of secondary scoliosis meriting notice here, as, for instance, those varieties following some nervous disease (poliomyelitis, sciatica); those following some disease of the pleural cavity; those accompanying rickets; those due to some aggravated position during occupation; those upon a pure hysterical foundation. The mere mention of the prime etiological factor in these cases suggests the plan of treatment.

There also exists a form of congenital lateral curvature which is rare.

The condition to which we will now devote our attention is that form of scoliosis, not yet mentioned, which occurs chiefly in young girls approaching adolescence. Here we search in vain for causative factors as clear as those mentioned above. It is probable that this deformity results from a multiplicity, or combination, of causes, small in themselves, yet together powerful enough to produce a condition serious to the patient, not only on account of its unsightliness, but because of the discomfort produced thereby in marked cases. We encounter this deformity mainly in rapidly growing girls of sedentary habits. It occurs often that it is well advanced before it is noticed by the parents, and still more often it happens that the attention of the physician is called to the case late, and thus most valuable time has been lost. The dressmaker is not infrequently the one to first notice a "high hip" or "high shoulder." We find that the girl usually has an ill-nourished, anemic look, and if we searched for them we should perhaps meet with associate troubles of the eyes or nasopharyngeal passages, or some ailment referable to the alimentary canal. It is also often that a slight knock-knee or flat-foot is combined with the lateral curvature, and there are those who believe that most scolioses are due to a flat-foot, which causes a slight shortening of the leg, a tilting of the pelvis toward the affected side, and the consequent lateral curvature. False postures at the school-desk and irrational clothing are frequently contributory causative factors, and most important ones. These associate troubles certainly often play a part in the etiology of this deformity, and it is always wise to bear them in mind when examining a girl's back.

We will now consider the more immediate causes. Here we find two factors chiefly concerned. The first is that there seems to be a softening and increased plasticity of the bodies of the vertebræ; the second, that there exists always considerable muscular weakening and atrophy.

Scoliosis is classed among the static deformities, i. e., those which are caused by a disproportion between the weight of the part to be borne and of the bony framework designed to carry it. Thus it is easy to see that with the bones softer than they should be they must give way to the superincumbent weight. How this softening is produced has not yet been satisfactorily explained. It may be due to so-called "late rickets;" or it may be due to some other nutrition disorder. However, it exists. Whether this first factor would be so important without the second one, the muscular weakness, is a question. In order to realize the importance of the muscular tonus it is necessary to call to mind the mechanism which preserves the normal curves of the spinal column, and which assures it of a vertical direction. All of my listeners have had more or less experience with corpses, no doubt, or with people deeply under the influence of an anesthetic. You will recall how difficult it is to bring such a person to a sitting posture. What absolute relaxation there is of all the muscles and how the back yields and gives, assuming all

sorts of curves, according to gravitation. Artists never fail to portray this limpness in their paintings of the dead.

What is it here that makes the difference? The vertebræ have not changed, nor has the ligamentous mechanism undergone any transformation. It is the muscular apparatus that is entirely affected. So we see that the normal attitude of the spinal column is directly dependent on that complex system of muscles, the number of which is great, and the names of which are easy to forget. If we look at a jointed flag-pole or chimney and observe how it is braced up from the ground by a system of ropes or cables we see that it resembles very much, though in an infinitely simpler way, the general arrangement of the system of muscles that keep the spine in its normal position; and we can appreciate how anything that causes weakening of these supports tends to endanger the integrity of the flag-pole or of the spinal column, as the case may be.

Having thus passed in hasty review those elements of the etiology of scoliosis which we know to exist, and which, for the most part, are amenable to our thérapy, let us now formulate the general plan of treatment which we can base on them. We have seen that scoliosis is due "probably to a multiplicity or combination of causes." Our therapy must be on the same lines, correcting those causes we may find, and it is by a persistent attention to details that cases are improved. It is not sufficient to attack the "hump that we can see."

We will, no doubt, agree when I say that we must first try to eliminate that factor which plays the chief rôle in the etiology of the deformity. If the girl is weak and anemic a corresponding therapy is indicated. If we find some eye trouble or any lesion of the upper respiratory tract it is of great importance to attend to it. Pharyngeal adenoids play a prominent part here, and it is not infrequent that we find a scoliotic girl a mouth-breather. An accompanying knock-knee or flat-foot must of course be taken care of. It is of great importance to find out the habitual posture at the school-desk, and to correct that if it is faulty. The system of vertical writing as practiced in many of our schools is doing much, no doubt, to lessen the number of scoliotics. The matter of dress must be seen to, and care taken that not the entire weight of the clothes from the shoulders down is borne by the shoulders. It has been ascertained that the average weight of the clothing borne by the shoulders in a normal girl of, say, 16 years is from three to four pounds on each side. At first sight this may seem a small amount, but when we remember that this is borne all day long we realize that the muscles concerned are really under a great continuous strain.

There is no sure method of combating the abnormal plasticity of the bones. A carefully directed diet and an out-door life are no doubt as good therapeutic agents as we possess. Phosphorus and the tonics are indicated when well borne by the patient.

We have seen the importance of the muscular element in the causation of this deformity, and this is one which it is in our power to take care of. The muscular system of a scoliotic girl is that which must be most painstakingly guarded against further weakening, and it devolves upon us to see that it is fortified by all the means known. This point has been made the subject of long articles and even hand-books, and it is not possible here to give a detailed account of all the measures we may take with this end in view; however, one most important means is massage. If massage is good for anything at all it is good as a muscle-strengthener, and we must not be too dignified; that is to say, we must at least be able to give this massage ourselves, so that we can have absolute control of the case. Exercises appropriate for the case, are the second means of fortifying the muscular apparatus. It may be said, however, that some care should be used in choosing these exercises, for ill-advised ones might have a tendency toward the increase of the deformity. It is well in directing these exercises for the first time to have the trunk of the patient bared, and to observe the effect on the back.

Rowing is most excellent exercise for most cases; in fact, all out-of-door sports should be encouraged. The use of dumb-bells is good. It is surprising to note the beneficial effect of so-called "heavy work," that is to say, the lifting of heavy weights, dumb-bells, and bars. All exercises should be directed so that during contraction of the group of muscles there is a

tendency toward the decrease of the deformity.

In treating these cases we must guard against shortening of the ligaments of the spinal column. To put it in few words, there is danger of permanent contraction of the ligaments on the side of the concavity, and when this shortening is established it materially reduces the possibilities of decrease of the deformity. Vertical suspension is one of the best means for combating this stiffening of the spinal column.

We arrive now at the measures designed to directly reduce the abnormal curvature, and here we find that they are really aimed in the main at those secondary thoracic deformations which become more and more marked as the element of rotation enters into the question. It is easy to understand our almost absolute impotence to directly reach the spinal column for purposes of corrective manipulations. However, by pressing or pushing on the ribs forming the "hump" (the most unsightly of the effects of scoliosis) we not only tend to lessen the thoracic deformity, but also exert a leverage on the spinal column, and thus combat the rotation which is a part of the scoliosis. Many means have been designed for this purpose, the first of which are the corrective exercises already alluded to; the second is actual pressure by the hands of the surgeon or by apparatus which tends to lessen the thoracic vaulting. Patients have been put into plaster casts for months at a time, these plaster jackets having been applied while the spinal deformity was in a corrected position. It is questionable how effective this therapy is in the average case, although the writer has seen good results. The great danger is the atrophy which ensues upon this prolonged fixation, and it has been the experience of most who have essayed this method of treatment that the spine, when released from its plaster prison, sinks together, and the deformity is increased, if changed at all.

Braces of all kinds are used in the attempt to "push in" the abnormal curvature of the thorax. The general principle of these lies in a padded, rounded steel plate, which exerts pressure on the greatest prominence. The value of this variety of apparatus is in most cases more imaginary than real, for if this metal plate really exerted enough pressure to do any good it would be most uncomfortable to the patient, and the skin over the affected area would soon resent the insult.

This brings us to the main point which it was my desire to emphasize, and that is that the number of therapeutic means we must resort to before thinking of a brace is great, and that these measures, in a large number of cases, are sufficient without the use of a corset. That the application of a corset or brace alone, without any of the therapeutic means referred to, is usually not followed by improvement, but, on the contrary, often by an increase of the deformity.

Kindly do not misunderstand me as condemning the brace, jacket, or corset, whichever you desire to call it. The orthopedist cannot spare it any more than he can spare salt at his meals; but it should be considered as an adjunct to the treatment,—a valuable one in many cases. However the following happens very often: The doctor examines the child; lateral curvature is diagnosed; the child is rushed to the instrument-maker; brace (good, bad, or indifferent) is procured; parents recline comfortably in their easy chairs murmuring, Doctor So-and-So has examined her; we have paid so much for a brace; she is wearing it; we have done our duty.

In closing, allow me to point out what we may expect from a corset. We can demand from it:

1. That it support the thorax in the position we find it in.

2. That it have some device tending to lessen the deformity.

3. That it adapt itself to the change of contour of the spinal column or thorax as these become improved during treatment.

We *must* expect from it that it is comfortable; that it does not impair breathing; and that it is easily put on and off.

All these requirements are met by the "Hessing" corset (Figs. 1 and 2), which is much used in Germany, and is no doubt the best thing of the kind made to-day. The prime essential difference lies in the fact that it is firmly fixed to the pelvis, thus giving it an immovable hold without any constricting influence. This hold is achieved by the accurate fitting (to the body of the patient) of tempered steel bars to almost the entire extent of the crests of the iliac bones, and it is only in exceptional cases that this is not possible.

Gentlemen, I thank you for your attention. I realize that there are, no doubt, omissions in this paper, but, considering the scope of the subject, these would exist were this essay again as long as it is. However, if the writer has been able to demonstrate to you the possibilities of treatment outside of braces, and the danger there lies in the exclusive use of apparatus, his purpose will have been fulfilled.

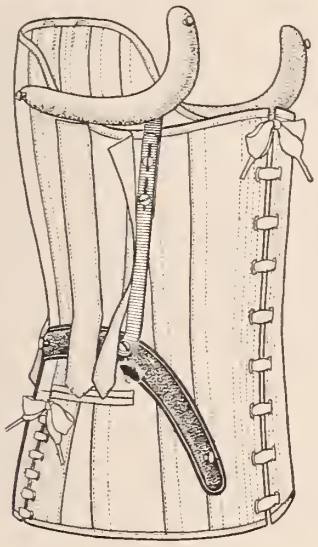


Fig. 1.



Fig. 2.

THE REMOVAL OF IRON AND STEEL FROM OTHER PARTS OF THE BODY THAN THE EYE, BY THE USE OF THE GIANT MAGNET, WITH REPORT OF TWO CASES*

By Frank C. Todd, M. D.

Professor of Eye and Ear Diseases, University of Minnesota

MINNEAPOLIS

Electromagnets have been used for some time for the removal of iron and steel from the interior of the eye, but I am not aware that they have been used for the removal of these foreign bodies from other parts of the body, though the value of the giant magnet, both for diagnosis and removal, is evident. There are quite a number of magnets devised for the purpose of removing these foreign bodies from the eye, but they may be divided into two classes, namely, the small and the giant. The small magnet has very much less power, and has no diagnostic value, but is preferred by some for certain cases. In its use the point is inserted into the interior of the globe. Haab, who devised the giant magnet, claims that the small magnet has no function, and that all cases are better treated with the giant magnet, for with this instrument it is not necessary to insert the point into the globe. Haab's opinion is undoubtedly true when the giant magnet is handled by an expert, for many eyes can be saved which would be destroyed by the insertion of the point of the small magnet into the interior of the globe. The objection to the giant magnet is that its cost is great. It is not, therefore, practical for those surgeons who have little of this work to own one.

In presenting this idea, that the magnet be used for the purpose of diagnosis and removal of steel and iron embedded in the tissues other

*Demonstrated before the Hennepin County Medical Society, February 7, 1905.

than the eye, I desire to state that I am not endeavoring to compete with the general surgeon, and I have neither the knowledge nor the desire to do any of his work. I would be glad, however, to put my magnet at the disposal of any of the members who may have such cases and may desire to make use of this method.

This magnet (Fig. 1) is quite movable on the

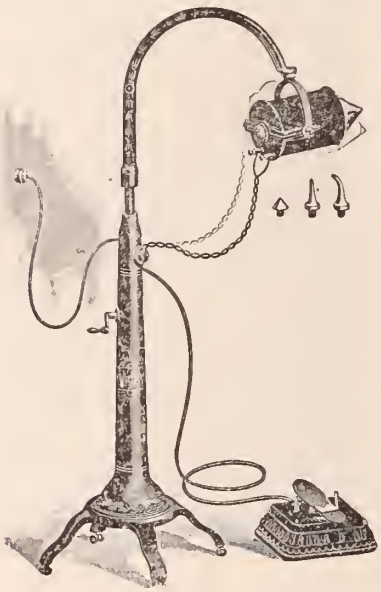


Fig. 1.

floor, and is so swung that it may be moved in any direction, while the patient remains quiet in a chair or lies down upon the operating-table. While it is portable it is very heavy, and it is not practical to carry it about. I therefore keep it attached to the direct current in my operating room at my office. It is so powerful that it will lift 400 pounds when connected with the 500-volt current. Pieces of iron and steel therefore held at some distance from the magnet will be rapidly drawn to the point. The power is perfectly regulated by a foot rheostat.

Case 1.—This case was referred by Dr. Spring, who had taken an *x*-ray picture, which he has shown to-night, showing the location of the foreign body, and he had endeavored, with the use of instruments, to find it. The foreign body was embedded in the muscular tissues of the forearm, and was a flat piece less than one-quarter of an inch in diameter at its largest part. Dr. Spring was unable to find it with the knife or other instrument. The application of the magnet to the wound at once caused pain (due to the movement of the foreign body toward the magnet, thus proving the fact that a piece of iron or steel was buried in the tissues), and whenever the current was turned on this pain was pronounced. An application of cocaine was made completely anesthetising the parts, and the foreign body evidently worked its way out toward the magnet, and when the arm was drawn slowly away from the point of the magnet the tissues remained in contact with the magnet, being held there by the piece of steel which was attracted toward the point of the magnet. By the use of a knife the soft tissues separating the magnet point from the foreign body were severed, and the steel readily made its way through this path, and was found upon the magnet point.

Case 2.—This case was also referred by Dr. Spring, and was another patient with a foreign body embedded in the tissues of the wrist. Dr. Spring has seen the piece of metal with the fluroscope, but it was still smaller than the piece removed in the other case, being sharply pointed like a needle, one-quarter of an inch long and about one-sixteenth of an inch in its largest diameter. It was removed in the same manner, but it was found best to direct the magnet so that the lines of force would bring it out point first in order to secure it without much cutting. This foreign body was so small that it would have been impossible to remove it without considerable dissection and much searching.

HOSPITAL BULLETIN

ST. BARNABAS HOSPITAL

MINNEAPOLIS

A FIBROID IN THE ABDOMINAL WALL

In the Service of Dr. G. G. Eitel

Mrs. J——, aged 26, first noticed a mass in the lower abdomen ten months before she entered the hospital. At that time the tumor was small and but slightly painful. It increased gradually in size, until the time she presented herself for operation when it was about the size of a man's fist. With the increasing size it grew more painful, the pain being especially severe at night. On examination the mass was found to be situated immediately above and to the left of the symphysis pubis. It was hard, and apparently incapsulated and imbedded deeply in the abdominal parietes.

On operation the tumor was found imme-

diately below the external oblique muscle. It involved all the structures beneath, including both recti muscles. It was so closely adherent to the peritoneum that that membrane was opened up in the effort to dissect it free. It appeared to have sprung from the transversalis fascia.

The external oblique muscle and fascia were free, and were used to make the new wall and to close the wound. Owing to the destruction of the recti muscles some uncertainty was felt as to the result. The patient, however, has suffered no discomfort whatever, and is entirely well.

On section the tumor presented a striped, "silk-ribbon" appearance, macroscopically. Microscopically it proved to be a very cellular fibroma, i. e., a desmoid.

A UTERINE FIBROID, WITH SYMPTOMS OF MALIGNANT DISEASE

In the Service of Dr. G. C. Barton

Mrs. D——, colored, aged 40, entered the hospital as a medical case, which had been diagnosed "inflammation of the bowels." She was complaining of great pain and tenderness over the abdomen, vomiting, and progressive emaciation. Her family and past history was unimportant. She had menstruated first at 14. The periods have always been regular and painless.

Present Illness.—One month ago while doing chamber work, she was suddenly seized with severe pain in the abdomen. The pain was first dull in character, but soon became sharp and shooting. The abdomen was tense and tender. She went to bed, and did not get up again until she came to the hospital. She remained in the medical ward for three weeks, during which there was little or no change. At the end of that time I first saw her. She was then markedly emaciated and anemic with the facies of one suffering from cancer. The abdomen, which was very sensitive, was occupied in its lower half by a tumor, which reached as far up as the umbilicus. The abdominal wall was extremely thin, and the peristaltic action of the intestines was plainly visible through it. The tumor, which entirely filled the pelvic cavity, apparently sprang from the uterus, which, however, was fully movable. There was a foul, bloody discharge from the cervix.

For weeks she had been unable to retain on her stomach the simplest nourishment. She was, moreover, much distressed by gas. She was very constipated. For a week rectal feedings were resorted to, during which time systematic gavage was employed. The stomach contents gave no indication of carcinoma. At the end of a week her condition had not improved, and as a last resort she was advised to have an operation for the removal of the tumor, which was thought to be malignant.

At operation the tumor was found to be a large nodular fibroma, which sprang from the fundus of the uterus. The right ovary contained another fibroma. One small tumor attached to the main growth by a narrow pedicle was adherent to the fundus of the bladder. The left ovary was cystic. There were no adhesions, and it seemed impossible that the tumor could have caused any obstruction to the bowel.

A complete myohysterectomy was performed. There was very little vomiting following the anesthetic, and when the effects of the ether had completely worn off the vomiting ceased entirely, and no further difficulty was experienced. Her recovery was complete.

Microscopic sections of the tumor, which were made in the clinical laboratory at the hospital and by Dr. Frank Corbett, showed the tumor to be a simple fibroma.

The interesting points of this case are:

1. The cachectic state to which the patient was reduced.

2. The sudden onset of symptoms resembling those of intestinal obstruction, with no indication of obstruction at operation.

3. The immediate amelioration of all symptoms upon the removal of the tumor, and the rapid recovery of the patient.

NORWEGIAN DEACONESS HOSPITAL

MINNEAPOLIS

NEPHRECTOMY IN A CASE OF RENAL TUBERCULOSIS

In the Service of Dr. Jakob Hvoslef

This case is interesting on account of the early stage at which the kidney was removed, before any cheesy degeneration of the kidney parenchyma had taken place.

Miss E. H——, aged 26 years, a dressmaker, with a good family history; has always been of fairly good, although not robust, health. Consulted me for the first time on December 23, 1902. Complained of painful and frequent urination. No appetite. Menstruation regular, somewhat painful. Her temperature was 99.2° in the forenoon. Slightly tender over the bladder and in the lumbar region (on which side my notes do not state). Urine was turbid, slightly acid, and formed a sediment on standing, which by microscopical examination proved to be pus. The filtered urine contained a small amount of albumen.

Patient was sent to bed on a milk diet, and given successively urotropin, decoct. foliorum uvæ ursi and ichthyol (the latter from 3 to 15 drops, 3 times a day). I attended her a couple of weeks, during which she improved somewhat. After this she went to visit relatives in the country, and I did not see her until October 24, 1903, when she came to my office telling me that she had improved a great deal after leaving Minneapolis, giving the ichthyol, which she continued to take for some time, the credit for this improvement. However, in the summer she grew worse again, consulted the nearest physician, and was treated with bladder washings and urotropin, but without much relief.

I advised her to go the hospital for a thorough examination and observation, and this she did on October 25. The condition was about the same as when I first examined her, or probably worse. She had to pass the urine six to eight times during the night, and had a colicky pain in her right side and over the bladder towards the end of urination. Lungs were normal; temperature 98.5°-99.5°. Urine as before. Sediment was examined for tubercle bacilli, *with negative result.* Daily bladder washings with 2 per cent boric acid solution followed by injection of about half an ounce of 2 per cent nitrate of silver sol., which again was neutralized with normal salt solution, were carried on for some time, and ichthyol was taken internally. Her condition improved somewhat under this treatment, so that on November 17 my record states that she only passes the urine 3 times from 8 p. m. to 6 a. m., and that she was feeling good.

On November 23 her urine was *clear* and contained *no albumen.* (This is an interesting incident, probably caused by clogging of the right ureter on that day, because on November 25 it was about as before, containing albumen and pus in the usual amount.)

On December 4 she left the hospital and tried to work, her condition being about as on November 17th.

On January 3, 1904, she came to my office again, insisting that something radical be done for her, "as she would rather die than live this way," and the next day she went to the Norwegian Deaconess' Hospital. Her general condition was about as on Oct. 25, 1903. Urine sediment was again examined for tubercle bacilli with negative result. By palpation over the abdomen some tenderness was felt below right costal arch in the mamillary line and in the right lumbar region.

On January 9 a cystoscopical examination was performed by Dr. H. B. Sweetser and myself, and in the knee-chest position, the bladder expanded by air, we succeeded in locating both the ureter openings quite plainly. Around the orifice of the right ureter an area of about half an inch in diameter showed an inflamed condition lacking on the other side, the mucosa being of a deep-red velvety color. An attempt at segregation of the urine was not successful, and was given up.

January 11 a nephrectomy was performed, Dr. H. B. Sweetser assisting. The kidney was found and delivered out of the incision without much difficulty. It was considerably enlarged, of a dark-red color, the surface studded with greyish, semitransparent nodules (tubercles). An incision was made on the convex side of the kidney into the pelvis. No abscesses were found in the kidney tissue, and no calculus in the pelvis. The appearance of the kidney seemed to justify no other course than complete nephrectomy, although some anxiety was felt as to the condition of the other kidney. The stump was ligated with catgut, and the wound sutured after introduction of a rubber-tissue gauze drain.

Amount of urine passed after operation:

First 24 hours, 13-14 ounces.
Second 24 hours, 18 ounces.
Third 24 hours, 20 ounces.
Fourth 24 hours, 26 ounces.

Patient recovered without interruption, and was up in less than three weeks.

Urine continued to contain albumen after the operation, although decreasing from day to day (very likely from the ureter on the sick side).

February 5, urine almost clear, only trace of albumen. I saw her on March 15. She looked a picture of health, and had no pain at urination.

NORTHWESTERN LANCET

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MARCH 15, 1905

BARIUM CHLORID

Pesci, in an article from the Reforma Medica, Palermo, which is abstracted in the Journal of the A. M. A., calls attention to the therapeutic value of this drug. It has been used successfully in pleurisy, myocarditis, valvular defects, and typhoid. It increases blood pressure, and is an efficient diuretic, hence it is distinctly contraindicated when blood pressure is excessively high, and the heart is weak.

In some of the cases in which Pesci used the drug, particularly during an active pleurisy, the results were marvelous, the amount of urine excreted increasing from 1,000 to 4,000 c. c.

Barium chlorid stimulates the walls of the arteries, and suspends infiltration into the tissues. It is also indicated in the first stage of disturbance of compensation in valvular affections, which so frequently occur in typhoid or other infectious diseases. Barium is slowly absorbed from the intestine, and is speedily neutralized by potassium salts. The dose of chlorid of barium is from 1-20 gr. to 1-10 gr. It is the most poisonous of the three common alkaline earths, but if used cautiously is as safe as any of the drugs which are given for arterial stimulation.

Many years ago barium was used in chronic and degenerative diseases, but without a very accurate knowledge of its properties. It was supposed to be similar to the action of the heavy metal series, but the investigations of Schedel, Jabora, and others have proven the limited uses of this salt, and have demonstrated the diuretic possibilities.

A drug that will strengthen the walls of the heart and the muscular coats of the arteries, as well as act as a powerful diuretic, is one that will promise improvement in a variety of diseases. Anything that will encourage elimination by natural methods, that is, by toning the circulatory apparatus, will be a valuable adjunct to the therapist.

BACTERIAL INFECTIONS

To solve the problem of the effect and result of bacterial infections is the ultimate aim of the clinician and laboratory investigator. It is comparatively easy to say that a patient is suffering from an infectious disorder, but it is extremely difficult to ascertain the origin and extent of the process. Repeated examinations of the blood, even though the result is negative, are imperative if we are to arrive at a working basis. A highly suggestive and encouraging line of work has been done by Martzinovsky of Moscow, who believes that endocarditis may result from the action of one or more of several bacteria. He found acute endocarditis in about one-half of his cases of rheumatism, but the bacteria differed in the various cases, so that the assumption is clear that acute rheumatism from a single causal germ is highly improbable. The writer was able to discover a connection between the endocarditis and erysipelas, with streptococci in one case, and a diplococcus endocarditis and croupous pneumonia in another.

Acute endocarditis is frequently followed by progressive anemia and icterus, with urobilin, albumin, and casts in the urine.

The fact that an acute endocarditis is overlooked and the evidences of an acute nephritic inflammation only are found, leads to confusion and doubt as to the origin of the disease. To examine the blood in all acute cases is wise, yet the time required in making cultures is so great that the majority of physicians will neglect what may be the most important event in the investigation. This is an argument for the clinician and laboratory man to discuss with the best of the argument on the laboratory side.

The number of microbes in the blood is not necessarily large, and repeated cultures may be required to determine the presence of the special bacteria. Due consideration must be given to the possibilities of infection of other organs by the blood stream.

An acute nephritis suddenly appearing may be due to the infected current and not to an organic kidney lesion. The limitation of the disease process, the clearing of what seemed a serious situation, and the speedy or satisfactory recovery of a patient from an acute endocardial state is strong evidence of a bacterial invasion. Some of these cases recover with little or no treatment; the serious cases die because the disease was unrecognized and therefore unscientifically treated.

Under the conditions described the remedy is that which will attack and destroy the specific bacteria,—an antiserum. The time is coming when the blood must carry the serum directly into the diseased or involved organs. The roundabout method is too slow and uncertain. If the patient recovers under the old methods of treatment it is because the power to resist the force of the bacteria is present. With the antiserum methods the results should be more prompt and specific.

THE GULLIBLE PUBLIC

In order to advertise a new remedy successfully to the public through the daily press, the claims for such remedy must be set forth in stronger language than has previously been used for like purposes, and as adjectives have only three degrees of comparison one might think the end of extravagance in language had long ago been reached. If any one thinks the end has been reached, let him read the advertisements of "Liquozone" now occupying large space in the leading dailies. It is claimed to be liquid ozone, and to cure "all diseases that begin with fever—all inflammation, all catarrh in any part of the body, all contagious diseases, all the results of impure or poisoned blood." A score of chemists, including the chemist of the Governmental Agricultural Experiment Station of North Dakota, have analyzed the so-called "liquid air," and have found it to be composed of water, sulphuric and sulphurous acid, and inert impurities. It will thus be seen that it is really a dangerous product, and the government chemist, above quoted, accordingly warns the public against its dangers.

Such claims ought to be made criminal, and ought to be punished by imprisonment. The medical profession may well ignore all the claims made for inert and harmless patent medicines, however much their proprietors rob the public, but when oil of vitriol is advertised as a cure-all and is thus to be taken by men, women, and children for all sorts of ailments, including contagious diseases, the alarm should be sounded, and very properly, by physicians.

FILTRATION BONDS

The Hennepin County Medical Society at its last meeting passed a resolution urging the Hennepin County delegation in the legislature to vote for the issuance of bonds to the amount of one million dollars to construct a sand filter for the water supply of Minneapolis.

The city has been widely advertised in many ways, but the most flagrant form of advertising for any city is an admission that its water supply is impure. To remedy this, and to place the city before the country as a city adapted to maintain a record of good health, Minneapolis must have pure water at any cost. To postpone a remedy for the purification of Mississippi water for two years is to invite the multiplication of disease germs. To be unprepared means a high death-rate to Minneapolis. No man is truly conservative who advises delay. Other cities have passed through experiences that should not be repeated here. The Mississippi river is becoming a channel for extensive sewage deposits, and some day the accumulation will reach Minneapolis and infect the city.

The investigations by the State Board of Health have shown conclusively the bad effects of water-borne epidemics, and no risks should be accepted when a remedy is at hand.

Minneapolis can even stand a higher taxation to cover the bonds asked for.

It is to be hoped the legislature will promptly grant the prayer of the Hennepin County Medical Society.

NEWS ITEMS

Dr. C. E. Gates, who graduated from the State University last year, has located at Zumbrota.

Faribault is talking of building a county hospital. Probate Judge Smith started the movement.

Dr. J. R. Johnson, of Spring Valley, died last month at the age of 50. He was a graduate of McGill, class of '83.

Dr. John A. Greig, formerly of Bottineau, N. D., died last month at North Yakima, Wash., after a very long illness.

Dr. Frank C. Lyman, of Duluth, lost his little boy, aged 6 years, last month. Death followed an operation for appendicitis.

Work has been begun on a hospital building at Detroit. Dr. L. C. Weeks is the leader in the movement to establish the hospital.

Dr. A. A. Heinemann has sold his practice at Parkston, S. D., to Dr. G. Landmann, and will probably locate in Menno, in the same state.

Dr. P. H. Kearney, a 1904 graduate of the State University, has gone to Bismarck, N. D., and will be associated with Drs. Quain and Ramstad.

The new Pipestone Hospital was opened recently, and the residents of Pipestone are greatly pleased to have in their midst an institution so well equipped.

The new hospital at Drayton, N. D., was formally opened last week. The building was erected at a cost of $5,000 by Dr. H. M. Waldren, who will conduct the hospital.

Brookings, S. D., has long wanted a hospital, and now entertains hope that one may soon be had. Dr. E. Klaveness is the head of a movement asking for public encouragement and support.

The physicians of Mitchell, S. D., have been in conference over plans to build a hospital in Mitchell, which has become an important medical center in the state, and can easily support a good hospital.

Preliminary examinations for appointment of assistant surgeons in the army will be held on May 1st and August 1st, at points to be hereafter designated. Detailed information may be obtained by application to the surgeon general at Washington, D. C.

Dr. D. L. Axilrod, of St. Paul, has purchased the practice of Dr. J. F. Schefcik, of Hutchinson. Dr. Axilrod is a graduate of the State University, and Dr. Schefcik is a graduate of Hamline, and gives up practice to take a course in New York City in eye, ear, nose and throat work.

Dr. George R. Metcalf, of St. Paul, died suddenly the first of the month while traveling in Italy. Dr. Metcalf was a graduate of Amherst, and took his medical course at the College of Physicians and Surgeons of New York, graduating in 1874. He began practice in St. Paul in 1881.

Governor Johnson has appointed the following physicians members of the State Board of Medical Examiners for three years: Dr. Margaret Koch and Dr. O. E. Linjer, of Minneapolis, and Dr. Thomas Lowe, of Pipestone. Dr. Lowe has served on the board before. The organization of the board will take place next month.

Dr. James A. Quinn, of St. Paul, lost a finger the other day by the accidental discharge of a revolver, which was a relic of his coronership days; and Dr. A. W. Archibald, also of St. Paul, met with a painful accident while performing an operation. In some manner some acid got into his eye, and for a while threatened the loss of the eye.

Heredity or environment—Which? Dr. Orphir Lalonde, Riguad, Canada; Drs. J. U. and Leonide LaLonde, Montreal, Canada; Dr. Joseph A. Lalonde, Pawtucket, R. I.; Dr. Edward Lalonde, Torah, Minn.; and Dr. J. N. Lalonde, Spring, Minn., are brothers, and all alive and in active practice. All were born in the same house in Riguad, Canada, and both father and mother are living.

FOR SALE

Physician's practice for sale, and small drug store; only store in town; well established practice; large territory in Otter Tail County, Minn. Address Lock Box 9, Vining, Minn.

DESK ROOM FOR RENT

I will rent desk room in my office in Minneapolis at a moderate price, preferably to a manufacturer's agent, and will forward mail and answer personal or telephone calls. Address A. B——, care of THE NORTHWESTERN LANCET.

FOR SALE

A sixteen-plate Brunsell static machine, including fluoroscope, Crookes' tube, electric motor, cautery transformer, etc. The machine and attachments are in perfect condition and cost $300. It will be sold cheap for cash. Inquire of Dr. C. M. Oberg, 201 Globe Building, Minneapolis.

THE CONVENTION TRIP

The low rates authorized for the meeting of the American Medical Association at Portland, Oregon, July 11-14, make possible some of the most enjoyable and least expensive vacation trips imaginable.

Between Minnesota and Oregon is a stretch of marvelously interesting country. The rich farming and dairying lands of the "Bread and Butter" state, the great stock raising sections of North Dakota are succeeded by the peculiar collection of phenomena known as the Bad Lands or Pyramid Park. Then follow in rapid succession great regions where the predominant activities of the people are ranching, mining, lumbering, farming by irrigation, salmon fishing, canning of fruits, vegetables and fish, and all the varied occupations incident to the great centers of population on the coast.

The practically unlimited natural resources of the Northwest and the peculiar genius of the multitudes it supports (which are but a handful to the millions it is capable of sustaining) will be presented in graphic manner at the Lewis and Clark Exposition at Portland, Oregon, June 1—October 15. This "timekeeper of progress" originated in a desire to erect a fitting memorial to the great explorers, Captains Meriwether Lewis and William Clark. The idea of an exposition found ready acceptance when presented and the project developed rapidly, until it would now be possible for the management to dispose of twice as much space for exhibits as they have, and this, too, after repeated changes in plans, involving new buildings. An effort is now being made to induce the governments of the Northwestern states to erect their own buildings and install in them the exhibits of their commonwealths, thus providing more space in the crowded exhibit buildings.

The one criticism of the Louisiana Purchase Exposition which was most frequently heard was that it was so large as to be wearisome to mind as well as body. No such statement can be made with reference to the Portland Fair. A more conveniently arranged exhibition on a large scale was never before produced.

The cream of the exhibits of the Saint Louis Fair will be used with much new material. The United States Government and the Orient will be represented in much better style than at the fair of last year. The idea of having the amusement section partially on a bridge is unique, and "The Trail" is expected to compare very favorably with similar features of previous expositions. The Forestry Building will be the second largest log building in the world. It is to be seventy feet in height, and will be constructed of two miles of five and six foot Oregon fir logs with the bark on, eight miles of poles and tons of shakes and cedar shingles. The most distinctive feature of all is the search-light to be placed on the summit of Mount Hood. This famous mountain is forty-six miles from the exposition grounds and attains an altitude of about two miles above sea level. The largest search-light in the world throwing a beam six feet eight inches wide and two hundred miles long, is to be used. The light will be turned on Mounts Rainier, St. Helen's and Adams, making them plainly visible from Portland. In addition to the search-light the entire side of Mount Hood toward the Exposition city is to be brilliantly illuminated by one hundred powerful arc lights.

From Seattle, Tacoma and Portland many side trips can be made to points of historic and scenic interest; up the Columbia, which exceeds the Hudson in beauty; to Astoria of fur trade fame; to Mt. Hood or Mount Rainier for a mountain climb with the "Masamas," a club of experts which is making special preparations to be of service to those enjoy that sport.

From either Seattle or Tacoma the Alaskan trip is made. There is nothing in the world like it. The most renowned travelers give this trip the palm for grandeur of scenery. For 2,000 miles the traveler is transported in fine steamers over an inland sea, where sea sickness is unknown, through a panorama of most unusual sights. Mountains, fiords, glaciers, islands, smooth waters, Indians form part of the scenic recluse.

A feature of the trip to the meeting of the American Medical Association second in interest to that meeting only, is the Yellowstone Park tour. From Livingston, Montana, to Gardiner, the official entrance to Yellowstone Park, where the arch, the cornerstone of which was laid by President Roosevelt, is located, is a short jour-

A GROUP OF VIEWS



Eagle Nest Craig



Exposition Grounds from Government Peninsula



View in Centennial Park, Lewis and Clark Exposition



Golden Gate and New Road and Viaduct

ney through exceptionally beautiful canyon scenery.

President Roosevelt says: "The Yellowstone Park is something absolutely unique in this world." What the president knows everybody else knows or may know. There are other geysers than those in the park, there are other hot springs, other canyons and waterfalls, other volcanic and glacial remains, but in no other single place in all the earth is there so great a variety of natural phenomena gathered together. The park might well be called nature's curiosity shop.

The scenery is beyond the descriptive powers of any person who has yet seen it. John Muir, of California, the grand apostle of out-of-door life who has seen so much of, and written so much about, the grand scenery of the west, in "Our National Parks," writes thus, in part, of the Yellowstone:

"Of the four national parks of the West, the Yellowstone is far the largest. It is a big, wholesome wilderness on the broad summit of the Rocky Mountains, favored with abundance of rain and snow,—a place of fountains, where the greatest of the American rivers take their rise. The central portion is a densely forested and comparatively level volcanic plateau with an average elevation of about 8,000 feet above the sea, surrounded by an imposing host of mountains belonging to the subordinate Gallatin, Wind River, Teton, Absaroka and Snowy ranges."

* * *

"The wildest geysers in the world, in bright triumphant bands, are dancing and singing in it amid thousands of boiling springs, beautiful and awful, their basins arrayed in gorgeous colors like gigantic flowers; and hot paint pots, mud springs, mud volcanoes, mush and broth caldrons whose contents are of every color and consistency, plash and heave and roar in bewildering abundance."

* * *

"Here too are hills of sparkling crystals, hills of sulphur, hills of glass, hills of cinders and ashes, mountains of every style of architecture, icy or forested, mountains covered with honey-bloom sweet as Hymettus, mountains boiled soft like potatoes, and colored like a sunset sky. A' that and a' that and twice as muckle's a' that, Nature has on show in the Yellowstone Park. Therefore it is called Wonderland, and thousands of tourists and travelers stream into it every summer, and wander about in it enchanted."

The following is a statement of G. E. Farrow, superintendent of Yellowstone Park hotels, while en route east on business connected with the opening of the various hotels for the coming season:

"Magnificent trout fishing is promised for the coming season, which opens June 1. The government prohibited trout fishing during the winter and not a line has been dropped into the dozens of beautiful streams since last fall. More to the point, the trout are watched and where they seem to be thinning out, steps are taken to give them a chance to multiply again. There will be royal sport for the summer visitors this year; better even than in previous seasons, and that is saying a good deal. There is no better protection of fish and game than that of the federal government in the Yellowstone Park.

"We expect a very large travel to the Park this summer and the hotels are being prepared in advance to handle the rush. The new Old Faithful Inn, near the geyser of that name—the largest and most expensive log house in the world, by the way, for it cost $200,000—will be a favorite resort. Its balconies, balustrades, ceiling beams and arches and in fact nearly every detail of construction are worked out in logs and gnarled and twisted tree trunks and branches. The effect is exceedingly novel, and very attractive. From the roof a search-light plays on the great geysers at night, giving effects of marvelous beauty. The Park has a road system of 150 miles—every mile sprinkled daily. This is an odd feature for a mountain wilderness, but its practical value becomes apparent when one remembers what coaching trips over some mountain roads are like.

"The new road over Mountain Washburn will be completed this year, and tourists will be enabled to drive by coach to the very summit of an immense mountain, from which point the entire park can be seen. The new road will not be used this season, however. It is a wonderful piece of engineering, and has proven a very costly bit of roadmaking, but it is a government road—well built, and built to last.

"Ten thousand people saw the Park last season. What the travel will be this year I cannot say, but it will exceed this figure, probably by a very substantial figure."

The items of the vacation trip already mentioned may be enjoyed en route to Portland via the Northern Pacific railway. Returning, if desired, the tourist may include Salt Lake City, Glenwood Springs, Colorado Springs, Cripple Creek and Denver in his itinerary. This will enable one to see the best scenery in Colorado. All this included in the $45.00 rate from Saint Paul and Minneapolis. The rate for the Yellowstone Park trip including all hotel and transportation expenses is $49.50. The Alaskan tour and side trips mentioned can be made at correspondingly slight expense.

The Northern Pacific railway, official route to the convention, will have a special train leaving Saint Paul 10:00 p. m., June 29, arriving at Yellowstone Park July 1. After touring the park, the party, which will be limited to 125, will continue its journey to Portland stopping en route at Spokane, Tacoma and Seattle. For complete itinerary see advertisement of the Northern Pacific railway in this issue. Mr. G. F. McNeill, C. P. & T. A., Northern Pacific Railway, No. 19 Nicollet House Block, Minneapolis, Minnesota, will gladly answer any inquiries about this train, or arrange reservations.

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SUGGESTION IN THE TREATMENT OF THE SICK*

By O. F. Way, M. D.

CLAREMONT, MINN.

This subject is one in which I have been much interested, and I believe it is a remedy which should be much more studied, and more frequently employed in the treatment of the sick.

By *suggestion* we mean an impression which may be conveyed to a person by any of the five senses, and these impressions or suggestions, if improperly given, are just as certain to aggravate a disease as they are to benefit it when properly given.

A suggestion once received by the mind is capable of setting up other suggestions, thus magnifying a slight impression of an ailment until it becomes a great thing, and may actually produce almost any disease.

Suggestions arising within one's own mind are called autosuggestions, and these have a large influence in the progress of disease. We often hear it said of certain cases, "Oh, that is all in the mind," but do we realize how much of nearly every disease is in the mind? Were it not for the imaginary element in disease, physicians would find but little work in their line.

Early in my study of medicine my preceptor told me I would live to see the time I would actually hate Sunday, because every good old lady thought she must visit the sick that day, and consequently I would always find my patients worse Monday morning; and how true we have all found this to be, not because of the fact the company was there, but because four out of every five of those present suggested, in some way, how very sick the patient was, very likely telling him of others she had known sick the same way and the bad results following, all of which has impressed the patient and friends with the seriousness of the disease, and caused him to be bad indeed.

We have all heard of the criminal being bled to death by simply scratching his arm, then running warm water over the wound and telling him he was bleeding to death. Also of the man catching cold by supposing he was sitting near an open window; of the student made sick by his fellow students telling him how bad he was looking; and many other instances where, without doubt, the only cause of sickness was in the imagination. We all know how much more painful is an injury to a child, yes, and to most grown people also, if accompanied with the flow of blood. Very many of the chronic diseases we have to deal with would never be noticed by the patient were it not for the patent medicine advertisements he has read which so minutely describe all the symptoms he has ever had, and so carefully assure him of the seriousness of these symptoms and the certainty of very bad results following unless at once obviated by taking a course of their sure-cure medicine. And I am sorry to say it is not alone the patent medicine man who sometimes profits by impressing his patient with the seriousness of his complaint.

I presume every physician here has more than once been consulted by some young man who, after practicing more or less the vice of masturbation, has received literature from Dr. Quack telling him the awful effects of this unpardonable sin. Perhaps he has written Dr. Quack and then gone to see him, each time receiving more assurance of the bad effects the practice has already produced. By the time he comes to you he has most likely stopped his practice, and consequently is having emissions with his night dreams, more or less frequently, and he is now a

*Read before the Southern Minnesota Medical Association at Rochester, Aug 4, 1904.

pitiable object, indeed, in his own mind. But have you ever in your life seen one seriously injured by this practice—until he has either read or been told of the bad effects it will produce? I think physicians generally claim and teach this practice is more injurious to a person than the natural indulgence in sexual intercourse to the same extent, but will some one kindly tell me why this is so? I tell you it is all in the mind.

We are all familiar with the rush of blood to the face in blushing; of the loss of appetite upon hearing some bad news; the palpitation of the heart in fright; and many other certain effects of the mind upon the body. I once saw a man completely anesthetized in the arm simply by suggestion, so that the surgeon was able to remove several lipomas without the least pain, though the rest of the body was as sensitive as ever.

In his lecture on cholera I heard Prof. Robertson say that he believed at least four out of every five cases were simply scared into having the disease.

We often have it asked, why doctors do not more often take contagious diseases to which they are exposed. The reason is simply that we do not expect to take them; hence, even if a few of the many microbes do get into our nasal cavities, they are unable to scare us into the disease.

Again, we hear it asked, why do so many people now have appendicitis when a short time ago such a disease was unknown? Many reasons explaining the present epidemic of this trouble have been given, but I believe if the knowledge that we have an appendix, which is very liable to disease, could be effaced from the human race, we should again see people as free from the trouble as they were years ago. A pain in the abdomen, especially if toward the right side, now gives a person the idea it is appendicitis. His mind is continually drawn to this point, with the result that more blood flows there, congestion follows, then inflammation, and the thing is done.

Many more instances might be mentioned to prove the influence the mind has in causing and aggravating many diseases, but I think the above, with what each of you have seen in your own practice, is sufficient to convince any one of the reality.

Now, if suggestion has such an influence in causing and aggravating disease, is it not also reasonable to believe it may be used with equal effect, if properly given, in curing disease? Actual experience proves this to be the case, and suggestion is now recognized by many as a legitimate remedy which is capable of accomplishing wonderful results in the curing of disease when properly administered. Take as an example the child mentioned before, crying at the top of his voice with pain caused by a fall or bruise, if left to himself, he will cry and take on for a long time with agonizing pain, but let mamma pick him up, kiss him, and tell him it is better now, and the pain is soon all gone and he is playing again happy as ever.

I have heard more than one physician laugh at the result he has had in some stubborn nervous case by administering bread pills or some other placebo, but did he realize the exact cause of that cure as suggestion, pure and simple? We often hear it said when entering a sick-room to which we have been summoned in haste: "You ought to have been here about the time we sent for you, doctor; the patient was much worse then than now." Why this improvement? Simply because the patient knew you were sent for, and the suggestion is impressed upon him that you will help him. With this suggestion improvement has already begun, and, if you do your part well, the patient will most certainly continue to improve. Suppose, however, upon your visit you make the error of telling the patient and friends what a critical condition he is in; the chances are he will not recover. You ought to have been called sooner, etc., and, depend upon it, you will have a case critical, indeed, which will keep you busy a good long time.

I have heard it said that some physicians make a practice of telling how bad a case is, in order to get the credit of a great cure. Whether this is so or not, I do know the impression given by the doctor to the patient and friends does have a great influence with the further progress of the disease. I have always in my practice made it a rule to encourage, not only the patient, but also the friends to expect an early improvement, and we are seldom disappointed. Early in my practice I remember an old lady coming to me feeling very badly, and much worried for fear she would never be well again. After talking with her some

time, and giving her what encouragement I could, she remarked upon leaving: "Well, it makes me feel better just to see the doctor;" and so it is with our visits to patients. If we properly suggest encouragement, improvement, happiness, etc., while we are there the patient will almost surely be better for that visit, notwithstanding we leave exactly the same drugs the patient had been taking.

We all know how much better success we have treating patients where the people have perfect confidence in us than we do where it is otherwise. This is not because we give the first patient different medicine, but simply on account of the suggestion in the first case that we will help. This suggestion starts improvement, and a cure soon follows.

How often in our younger days have we been treating some case which was steadily growing worse, and finally a consultation was proposed, and some physician in whom the patient and family had great confidence was called. At his visit he assures them all is being done that can be, and the case will soon be all right. No change in medicine is made, but improvement begins, and the patient is on the road to recovery, simply because of the assurance that all was right, but suppose that the consultant should say you were not treating the case properly, that he doubts if you understand the trouble, and such talk, and you might as well withdraw from the case unless a different line of medicine is adopted and strictly carried out on the line suggested by counsel.

I well remember one of my first experiences with a case of confinement. The patient was a woman who had known me as a boy, but not as a physician. They had called for an older doctor, but as he was busy I was asked to go. Upon arrival the woman was reported as doing well, pains regular, and all right, but soon after she was aware I was to attend her the pains became less frequent, and of no effect. This condition continued for two days and nights. The pains did not leave, and in fact the patient complained that they were awfully hard, but in spite of all the old ladies who were there and all I could do, we were unable to make them effectual. Finally an old doctor in whom the family had great confidence was called. After making an examination he assured the patient and friends that all was well, and the baby would be born before long.

In a very short time the pains became stronger and more regular, and very soon, sure enough, the child was born, and all was well, simply because of the suggestion to the woman that the old doctor knew, and would see that she came through all right.

I have since had the satisfaction myself of being the older doctor, in whom the woman had confidence, called to just such a case with the same happy result.

Many schools and pathies are engaged in the healing art. Their methods of cure are as varied as the number of their names, still all of these methods meet with more or less success in healing disease, and it is a question if there is not about the same percentage of cures by one method as another. Is it not, therefore, reasonable to believe that there may be some curative agent common to all these systems which plays an important part in the healing of diseases? Such an agent is found in suggestion, and I am well satisfied this agent plays an important part in all methods of healing.

How many of those present to-day believe, for instance, that there is any healing virtues in a small dose of a drug reduced to the twentieth or thirtieth dilution? Still we must admit that the users of these medicines have about the same percentage of success in treating disease as those who use the stronger dosage.

It is customary for these practitioners to give their medicine often, and this is where suggestion gets in its good work, as with every dose of medicine taken there is more or less of a suggestion that it will help to produce a cure. A suggestion often repeated becomes stronger and stronger, and at last it is a reality. You have doubtless heard the remark more than once: "He has told that story so often he really believes it is true."

Who of us believe there are any special curative virtues in this or that cure-all patent medicine, yet must we not all confess that more than once after we have exhausted all our skill on some patient with apparently no benefit that patient has been benefited, or perhaps cured, by a few bottles of some widely advertised patent, but

have you any idea if you had given the patient that same patent medicine in a different bottle with one of your regular labels on it, the cure would have occurred? Certainly not. It was suggestion alone, derived from impression received from the advertisement, that did the work.

Faith cure, magnetic healing, Christian Science, absent treatment, and all that class of cures, are the result of suggestion entirely, and it makes no difference by what name it is known, it is through suggestion that the cure is accomplished.

Some people are much more susceptible to suggestive influence than others, but I believe every one is more or less affected by it. It is not the most highly susceptible cases, however, in which we get the best results, for though the improvement in them is sudden and pronounced, they are also very susceptible to wrong impressions, and hence they are very liable to relapse, and consequently the ultimate cure is slow and uncertain. But take a person who is not too easily influenced by suggestion, one who is capable of some reasoning powers; give him your suggestions, telling him why improvement will follow, etc., and you will soon have him on the road to health.

To be successful in the use of suggestion requires much tact and study, for scarcely will any two patients require the same suggestion. A suggestion that will help one, and put him on the road to health, might cause some other patient to believe you thought there was nothing much the trouble with him, and therefore instead of profit by the suggestion, he will discharge you, and get another physician who realizes what a serious condition he is in, and will give him drugs accordingly.

It used to be supposed that in order to receive much benefit from suggestion the patient must be under hypnotic influence, but such is not the case, and those not susceptible of hypnosis, will be more permanently benefited than one who is.

In using suggestion it should always be given positively, for in this form it is more readily accepted and acted upon than if given negatively. Always suggest first something you are positive will follow, then the patient will expect the other suggested things to follow also, which is another autosuggestion of great power.

I would not have it understood that I advocate doing away with drugs in the treatment of disease. By no means; drugs have their place the same as electricity, massage, or the knife have theirs, but I do say we are apt to rely too much on drugs, and hence are often disappointed in the results. Suggestion, properly used with any or all the other remedies, is certainly a great help, and the more one uses it the greater will be his success in treating disease.

DISCUSSION

Dr. Arthur Sweeney: This paper is very interesting and advocates one of the aids in practice which we all use, perhaps more or less unconsciously, as an adjunct to other treatment. All drugs are of themselves the embodiment of suggestion. The patient expects certain results, and this impression makes it more possible for the drug to perform its function. The patient forms an estimate of the acts of the physician, and whatever that impression is, it has a marked effect on the patient. The mind tends to believe that which it wishes to believe. Conclusions are controlled by our desires. Why do neurasthenics like to be told that their case is of a serious nature? They are susceptible to favorable suggestion. Any suggestion of discomfort, or of serious disease, is received with marked satisfaction, simply because it is agreeable to the patient. (The doctor cited a case of a person who was caught in a railroad accident, and some one suggested that it would cause paralysis, and it had the effect to cause the paralysis, but naturally the case made a marvelously good recovery.) The mind tends to accept suggestion. The patient has faith, and accepts the assurance given him. The doctor spoke of masturbation. I should try to substitute a healthy idea in place of an unhealthy. Pass a sound, or do any of a half dozen things, for the sake of suggestion. Time is an important element. Does masturbation do any harm until a psychical condition is established? Masturbation is the result of the lack of will power, and the insanity is the primal cause. An early effort should be made to gain the patient's confidence.

Dr. Witherstine and Dr. A. S. Adams each cited incidents supporting the sentiment of the doctor's paper, and favored the idea of suggestion.

BINOCULAR RADIOGRAPHY*

By Charles D. Harrington, M. D.

X-ray Surgeon and Consulting Surgeon, Asbury Hospital;
Consulting Surgeon St. Mary's Hospital; Etc.

MINNEAPOLIS

The stereoscopic radiograph was first suggested in this country in 1896. It gives you the real *x*-ray picture; there is no distortion; and the full detail is seen at a glance. We are not looking at a flat plane, one-eye vision, when we observe two negatives through a stereoscope; we get depth and solidity which cannot be obtained in any other way. A radiograph taken with one focus of rays is a picture seen with one eye. There is no perspective, and the relative distances are merged. A normal view with two eyes gives shape and true perspective to bodies seen. Binocular vision can estimate distances, and relative positions are correctly seen.

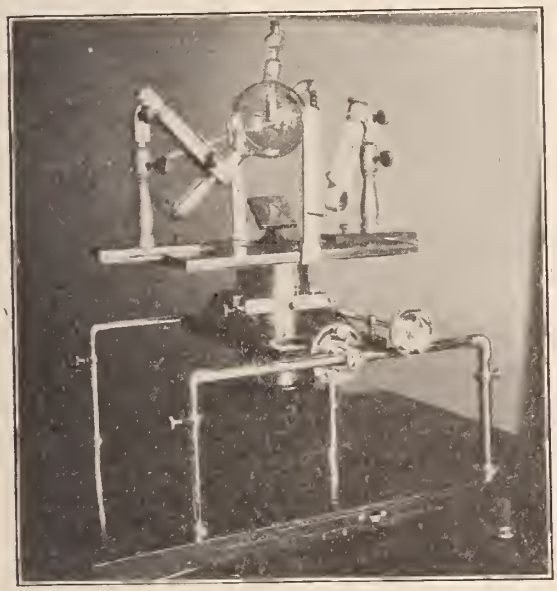


Fig. 1.

By using stereoscopic negatives you get a stronger impression, as the image from one negative strengthens and reinforces the other. In fractures of the joint it will show the size and relation of the fragments. In normal joints it will show the relation of the articular surfaces, the angle at which the bones are joined together, and the depth at which the smaller bones are placed. This you cannot get by flat illustration.

To get binocular vision effects with the *x*-ray, we take a picture with two foci of sight. This method has the same advantage over the single picture as a man with two eyes has over a man who has but one eye. As Monell states, "A single focus *x*-ray image limps toward a diagnosis like a paralytic with one leg." The binocular *x*-ray image stands out boldly on two feet, and tells its story at a glance.

Technic.—Stereoscopic vision is due to the fact that we have two eyes placed at a distance of about two and one-half inches apart, and each eye sees a different picture from the other. The brain coalesces the two pictures, so that we see only one, and that has the appearance of solidity. I wish to describe and show you an instrument used to produce this result.

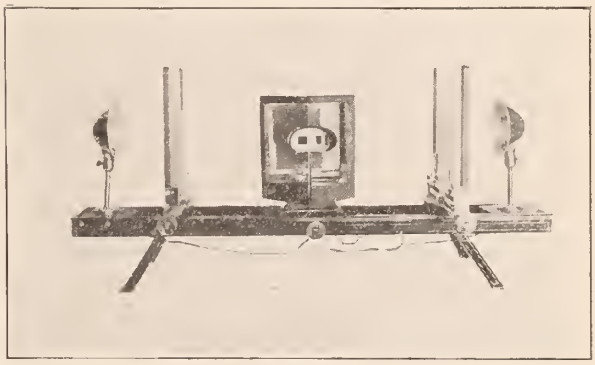


Fig. 2.

The instrument here shown was made by Dr. W. S. Fullerton, St. Paul, the object being to simplify the technic of producing radiographs for the stereoscope. It consists of a table upon which a compression-tube is placed on adjustable standards. On top of the compression-tube is placed a standard for holding the tube and means by which the tube can be accurately centered. A slide is placed in the base to hold different sized plates. This permits the changing of plates without disturbing the part radiographed, and also allows compression without breaking the plate.

*Demonstrated before the Hennepin County Medical Society, February 7, 1905.

The standards are adjustable, so that any part may be taken, whether a hand or the abdomen. The parts are easily removed from the base, and therefore there is no difficulty in placing the patient. Upon the standards is placed the compression-tube, which is adjustable in all directions. The tube is 10 inches long and 5 inches in diameter. It is made of brass and lined with lead, thus preventing any but direct rays from reaching the part radiographed. This is of great importance, as all *x*-ray light beyond that necessary to illuminate the area to be diagnosed, should be excluded. This superfluous light tends to diffuse the shadows. Beyond this the compression-tube holds the part in place. In renal and other abdominal radiographs, where it is necessary to eliminate the motion produced by breathing, the tube holds the part in a vise-like grasp, at the same time reducing the thickness of the abdomen, and brings the part to be radiographed closer to the plate.

On top of the compression-tube is placed the tube holder, the base of which is made of wood 12 by 18 inches. This is lined on the under side by sheet lead, and acts as a protective screen to the patient. In the center is placed a brass collar, which fits inside the compression-tube and holds the stand firmly in place. On opposite sides of the tube are placed two upright metal bars with pin-point holes near the top, which enable the operator to sight through and thus place the anode of the tube always the same distance from the surface of the part to be radiographed. The tube is centered by using a mirror placed at an angle of 45 degrees at the center of the opening. With the aid of the small sight-tube at the side in one of the uprights, the focus point of the anode can be quickly adjusted so that it comes exactly over the center of the compression tube.

With this instrument properly used you can take a radiograph that will stand in court. You know the exact distance from the anode to the plate, and there is no distortion, as the rays that reach the part are direct rays, the secondary rays being cut off by the metal. To take a stereoscopic plate the tube is adjusted one and one-fourth inches to one side of the center, and an exposure made. The tube is again adjusted one and one-fourth inches to the opposite side of the center without disturbing the parts. The plate is changed for a new plate, and a second exposure made. Both exposures must be the same as to time and penetrating power of the tube, and they must be developed the same length of time. They are now ready for the stereoscope.

The stereoscope as here presented, is a modification of Dr. Weigel's stereoscope, described in the New York Medical Journal of November 16, 1901. All adjustable parts and the standard are made entirely of metal, thus allowing perfect adjustment, which cannot be obtained with an instrument made entirely of wood. Another point which is a decided improvement, is the tilting motion of the frames which hold the negatives. This is obtained by a hinge. The advantage of having this motion is that it allows the radiograph to be taken on any part of the sensitive plate.

In describing the instrument you will see that it consists of a bed-piece upon which, at its center, two mirrors incline to each other at an angle of ninety degrees. Adjustable brackets, for holding the negatives, face the mirrors, and are adjustable in four directions. Two adjustments, the one at right angles to the base and the one parallel to it, are obtained by a simple sliding motion. The vertical adjustment is obtained by a mill-screw in the base of the frames. The tilting is obtained by placing a hinge at the lower and central part of the frame. By means of these various adjustments, the image of the two negatives reflected in the two mirrors, may be quickly adjusted until they are correctly superimposed, and stereoscopic relief is obtained.

Transillumination of the negatives is necessary, and this is secured by placing a 16-candle power lamp behind each negative. These lamps are wired in parallel to a single key-socket attached back of the mirrors. Metal shades are used for concentrating the light on the negatives. An even diffusion of the light is obtained by placing ground glass between the light and the negative. The brackets, holding the negatives, are adjustable and are made to accommodate any size plate.

The object of the stereoscope is to enable the observer to view two skiagraphs taken from different points of view at the same time, one with either eye. The result is a reconstruction of the

original in space. The radiograph represents all the parts lying in one plane, and does not show where a foreign body is located, nor the exact location of the fracture. In case of foreign bodies, it is impossible to tell whether the object lies above or below the bone. By taking two pictures, as described, and looking at them through a stereoscope, we get the exact locality of the foreign body and can readily see the depth below the surface.

THE OPERATIVE TREATMENT OF FRACTURES AND SPRAINS*

By A. E. Benjamin, M. D.

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MINNEAPOLIS

Many fractures are incorrectly diagnosed and improperly treated. Some are associated with joint dislocation or an injury known as a sprain. The results obtained in many cases are unsatisfactory to the patient and very annoying to the surgeon, when treated in the ordinary way. The *x*-ray has revealed the mistakes of many a past surgeon, and is the search-light of today.

We know it is now possible to open up any region, cavity, or area of the human body with comparatively no ill effect from the operation *per se*. We are not hindered now by that bugbear "stiff joint," nor deterred from uniting fractured bones by sutures for fear of infection.

Intelligent patients are no longer satisfied with a fairly good result, but demand a perfect and permanently satisfactory limb after bone and joint injuries. A bad result is seldom excusable, as we are now able to change our diagnosis from a probably correct one to a positive and accurate one. The Röntgen ray has dispelled the cloud that once hung over this part of emergency surgery. The surgeon who neglects to employ this guiding ray in certain cases, is doing an injustice to his patient, and building his hopes of repair upon incomplete knowledge. The patient should understand that the diagnosis and treatment will not be so exact and certain when it cannot be employed.

The long bones when fractured are frequently much out of line, because of the muscular action. The degree of deformity is determined by the relative location of the injury and muscle connection. The deformity is often so noticeable when the injury is of these long bones, that we should be absolutely correct in our diagnosis and sure of direct apposition of the fragments.

Skull fractures are now quite well understood, and good results are obtained by operation. The treatment of vertebral fractures is not yet settled, but the tendency is toward operative treatment. Joint fractures have often been neglected and, if we are to progress, must of necessity often be considered as operative cases in the future.

ADVANTAGES OF OPERATIVE SURGERY

We are certain when an operation is performed that we shall discover all the trouble, and that nothing will be left undone to assist nature in the process of repair. One of the most important reasons for operating is to allow the blood and serum to escape from the vicinity of the fracture. We can make a perfect approximation of the osseous tissue. Splinters of bone may be replaced, or, when they would act only as foreign bodies, they can be removed, and the fractured ends sutured if necessary. Interposed structures can be extricated. The periosteum can be stitched over some of these exposed surfaces of bone, and the fascia and muscle tissue united at the proper plane. Bleeding or oozing vessels can be securely ligated, nerve trunks or nerve filaments can be approximated if severed, or arranged so that they are not pressed upon by the bone or callus. Drainage will prevent the unnecessary accumulation of blood and serum, and thereby the fever and pain which results af-

*Read before the Western Surgical and Gynecological Association, at Milwaukee, December 28 and 29, 1904.

ter many of these injuries, on account of its retention, will often be avoided. Induration from the organization of this fluid is prevented by drainage. In this way we avoid the additional interference with the function of the nerve and muscular tissue, and the convalescent period is less prolonged.

THE INCONSISTENCY OF THE ORDINARY TREATMENT IN CERTAIN FRACTURES

The more frequently we operate upon fractures the greater evidence and more arguments we find for continuing this mode of treatment. This is especially true when a fracture into a joint occurs.

A compound fracture is designated as such when the fractured ends interrupt the continuity of the cutaneous tissue. Often fractures are of such an extent that they lacerate the soft structures, sever blood vessels, injure muscles, rupture ligaments and fascia, and, fo all intents and purposes, are compound fractures, except the skin covering remains intact.

Many surgeons are satisfied to treat such injuries by immobilization, and trust to nature for the rest. They hope that the torn ligaments and muscle tissue will unite in the proper plane, and believe that the exudate of blood and serum will be limited and soon be absorbed. They trust that the nerve trunks in the immediate vicinity will not be enveloped in the callus, or organized mass about the point of injury. In other words, the treatment is inexact, and necessarily foreshadows imperfect and uncertain results.

OPINION OF SOME SURGEONS

Dr. M. I. Wilbert, in an article published in American Medicine, January 23, 1904, entitled "Fractures of the Extremities," says: "Precision and exactness of diagnosis without the risk of injuring the surrounding tissue are practically impossible without the use of the *x*-rays, and without this diagnosis treatment must be uncertain."

Dr. Leonard Freeman, of Denver, Colo., read before the Chicago Society, May, 1904, a paper entitled "The Union of Ununited Fractures of the Neck of the Femur by Open Operation." He advocated the operative method of treatment of many of these fractures.

Dr. J. Alexander Hutchinson, of Montreal, read at a stated meeting of the Montreal Medico-Chirurgical Society, April 1, 1904, a paper entitled "The Treatment of Fractures of the Patella," in which he says: "In several of my cases the large amount of blood clots seemed a sufficient explanation in itself for the tilting forward of the lower fragment. This condition is illustrated in *x*-ray photo No. 18."

In all cases there is more or less acute synovitis accompanied by effusion.

"The treatment is divided into non-operative and operative, and this latter further divided into early and late cases. If a non-operative treatment is followed, we must expect that a complete return of function cannot be obtained.

Powers contributes an exhaustive article, in which he records the opinions of 71 surgeons, a summary of which shows that 4 would use Malgaigne's method, 17 are opposed to operation, 9 would operate unless there were distinct contrary complications, and 41 would operate in selected cases, such as with separation and comminution. He also states that recent literature shows a tendency to operate oftener.

Mikulicz secures the patella fragment with wire, stitches the ligaments, and closes the wound and dresses it the same as if no operation had been performed.

Dr. Joseph A. Blake, of New York, in an article entitled "Treatment of Fractures of the Patella by Lateral Sutures," states that a suture of strong chromicized catgut, No. 4 preferably, or kangaroo tendon placed in the lateral patella ligament on each side of the patella, results in good repair.

He also states: "In regard to the time for operation, I consider it is well to operate as soon as is convenient after the injury. I do not wait for the effusion to subside. In fact, I think it a distinct disadvantge to delay operation over four or five days, since after that time the tissues begin to heal in abnormal relationship, and the difficulty in properly co-apting them is thereby increased. Also by that time the fibrous fringes become attached to the surfaces of the fracture and fresh hemorrhage is provoked in separating them."

I am of the opinion that surgeons will, as a rule, adopt the absorbable sutures for approxima-

tion of all tissues, as we are now able to obtain satisfactory catgut sutures which will last a sufficient time, and they do not break. I have been using such material of late with perfectly satisfactory results.

Parkhill approximates bone fragments by means of pegs extending out through the wound, and with clamps fastens them so they are firm and rigid. He stretches the soft structures around these pegs. The same treatment is adapted for fracture of the head of the femur.

DeForest Willard makes a statement in his article on "Old Unreduced Dislocations," which applies to fractures as well, viz.: "Early immediate diagnosis is the most important in preventing the existence of old unreduced dislocations. With the *x*-ray and anatomic and surgical knowledge, a recent displacement ought always to be discovered by the surgeon. Immediate reduction by manipulation or open operation should follow." —A. M. A., Atlantic City.

Dr. Stuart McGuire, of Richmond, Virginia, in an article entitled "Ununited Fractures," makes a number of important statements. I have taken the liberty to quote quite extensively from this article. He says:

"A man who dies, after an operation, is buried, and soon forgotten, but the man who has a deformed arm, or shortened leg, from a badly treated fracture, lives for a generation, a walking or limping advertisement to his community of surgical limitation or incapacity."

"Usually the surgeon, when called to treat a case of ununited fracture, deals with it at first by non-operative measures with the hope that union may simply be delayed, and should his efforts prove unsuccessful, he operates on it later under the conviction that it is a case of non-union not amenable to less heroic measures."

"As constitutional causes of non-union authorities give a long list of conditions or diseases, such as age, pregnancy, lactation, acute infectious diseases, starvation, loss of blood, rickets, marasmus, and syphilis. All except the last are of doubtful influence."

"Under the local causes of delayed union or non-union may be mentioned, first, marked displacement or wide separation of the fragments; second, interposition of muscle, fascia, or foreign bodies between the fragments; third, defective nutrition through faulty innervation or deficient blood supply; fourth, infection and suppuration, destroying or preventing the formation of callus; fifth, 'defective immobilization or premature passive motion." Thus it will be seen that nearly all local causes can be removed by an early operation.

"In experimental cases of intracapsular fracture produced on lower animals, bony union was the rule when the fragments were held in position by direct fixation with a nail or screw, while in the cases not treated no union, except of a ligamentous nature, was ever observed."

"In other words, the bad results that follow the injury are not due to any fault of nature, but to absence of efficient methods of treatment."

Stinson, in his latest edition of "Fractures and Dislocations," in a few words sums up the whole question of the etiology of ununited fractures as follows: "It is beyond question that the causes are usually local, and that the most common one is a faulty relation of the fragments to each other, including therein the interposition between them of muscular tissue."

Dr. Robt. Carothers, of Cincinnati, in an article entitled "Ununited Fractures," published in the Cincinnati Lancet-Clinic, says: "Defective treatment is at fault in many cases; failures to make a complete and thorough reduction of fragments. It is not possible nor probable since the *x*-ray can be used as a valuable adjunct in the apposition of fragments."

N. A. Lane (Practitioner, March, 1903), is of the opinion when there is fracture of tibia or fibula by abduction of leg, a spinal fracture is produced, which demands operative measures, and demonstrates how futile is an attempt at reduction of the fracture by manipulation alone. He also doubts the truth of the statements frequently made as to results obtained by treatment of these conditions by means other than operation.

A FEW CASES

Case 1.—Mr. A——, aged 33, while getting off a street car, fell and sustained a fracture of the left clavicle, as shown in photograph No. 20. *X*-rayed and operated two days later by passing catgut ligature around the oblique fracture in two places. The other fracture remained in apposition. A good result was obtained.

Case 2.—Mrs. J——, aged 40, sustained a fracture of neck of humerus and subclavicular dislocation of the head. Operated upon two months later. An incision over the anterior portion of deltoid was made. The head was reduced. The fracture was then wired in place. A good result was finally secured.

Case 3.—Mr. S——, aged 35, sustained a fracture of patella by falling on the ice. There was a great deal of swelling and pain. A longitudinal incision over the center of patella revealed a fracture in three directions. The synovial sac was filled with blood. It was thoroughly cleaned out, and the bone fragments united with catgut and one silver wire. A little drainage was used. A good result was obtained.

Case 4.—F. G——, aged 9 (patient of Dr. Kelley), received an injury to the elbow joint, and had been treated by splints and cast for two months by other physicians. The arm could not be flexed, the joint was painful, and the head of radius remained dislocated. An *x*-ray picture was taken by Dr. Spring three months after injury, which showed a dislocation of the head of the radius and a fracture of the olecranon and coronoid processes.

It was operated upon. Assisting Dr. Kelley, an incision was made over the center of the back portion of the elbow in a longitudinal direction. The head of the radius was found to have ruptured the capsular ligament, so that the ligament remained between the head of the bone and the articular surface. This ligament had to be opened and separated in order for the head of the bone to be pushed into place. The olecranon process was found to be united in an angular manner so that this union was broken up, and the fragment stitched more in place. A fairly good result is following the operation.

Case 5.—Mr. P——, patient lately of Dr. Spring, injured six months before an *x*-ray photograph was taken. This injury was a fracture between the middle and the lower third of tibia and fibula. No extension had been employed. Splints had been used. Shortening of two inches resulted.

Case 6.—Mr. T—— sustained an injury to left femur. There was a fracture of the lower portion of the shaft. There was a small superficial wound, about the size of a dime, in back of thigh, over the point where the bone was broken. There was a great deal of thickening around the seat of fracture. The whole limb and foot were markedly swollen for some time. Motion at knee-joint was limited. There resulted one-half inch shortening compared with other leg. Sensation was impaired along outer portion of calf of leg.

An *x*-ray picture taken of this injury three months later shows that there was nearly a transverse fracture of the bone. That the lower fragment is displaced backwards and there is overlapping of fragments, also a large formation of callus.

SPRAINS

A sprain is a wrenching of a joint which may be an over-stretching of the ligaments, tendons, or muscular tissue enveloping it. It may be so severe as to rupture the ligamentous or muscular tissue. Occasionally there is a fracture associated with a sprain or a tearing away of a portion of cartilage. When a joint is sprained there frequently occurs a temporary dislocation. Nerves are at times severely injured, and blood vessels ruptured, so that there is an effusion of blood or serum into the joint cavity, synovial sacs, tendon sheaths, or extra-articular tissue.

The surgeon often sees these injuries so late that the swelling becomes enormous, and the pain very severe. The pain at the time and shortly after the injury is comparatively slight. It is commensurate with the time elapsed and the amount of exudate that has taken place. The pain continues, even though the limb is immobilized, until the swelling begins to subside.

As a consequence of a sprain there may be inflammation and limitation of motion. When the blood finds its way to the surface, ecchymosis is in evidence. These symptoms are temporary, or may persist for quite a time, according to the severity of the injury and the mode of treatment. Weakness of the joint from the faulty reattachment of the injured tissue and persistent effusion, may be of short or permanent duration. Ankylosis, because of tubercular inflammation supervening, is an occasional occurrence.

Fluid, if allowed to remain, which is the case in the ordinary form of treatment, so fills up

the areolar tissue and separates the ligaments that they cannot unite at the right point, and therefore their union is less firm. Some of the exudate becomes organized, and the joint remains weak and enlarged indefinitely. There is then the liability of a reoccurence of the sprain.

JOINTS AFFECTED

Sprains which frequently occur are of the knee, ankle, wrist, shoulder and elbow-joints. Associated fractures or dislocation are frequently noticed.

The anatomical construction and mechanism of the knee-joint is such that an injury, be it a sprain associated with a fracture of the patella, tibia, or femur, may result in the injury of blood vessels, cartilages, or ligamentous tissue. There is occasionally a collection of blood within the joint cavity. Some of the fibrous tissue when a fracture of this bone occurs, may fill in between the separate pieces. A fracture of one of the condyles of the femur may unite at such an angle that the joint no longer acts with freedom and ease of motion. The ligaments and cartilages may be separated from their attachment, and when they become adherent again they are not in the same position because of the distention of the bursal sacs and joint cavity with blood and serum. The knee-joint is found to be weak and wabbly in the future, because of the laxity of these parts after the absorption of the exudate.

STATISTICS

Bondesen gives the average period of recovery for knee-joint injuries with effusion, if aspirated, as 22.4 days; without aspiration, 38 days. Lubbe in 32 cases aspirated, average percentage, 22.5; not aspirated, 34.6.

It is needless to say that cases aspirated would naturally be of severer form. Had they not been aspirated, perhaps a much longer average would have been reached than by aspiration.

Bondesen states that recovery was complete in 86 per cent aspirated, and 63 per cent not aspirated.

Had these cases been operated upon, no doubt the percentage of good results would have been greater, as ligaments could have been stitched in place and the blood clots thoroughly removed.

THE TREATMENT

It seems to me the most rational form of treatment in severe sprains is to relieve the pressure and pain, due to exudate, by incision. By an operation upon these injured joints, blood and serum can be evacuated, torn ligaments or injured cartilages may be reanchored to their normal points of habitation, and bleeding vessels may be ligated, the tissues thoroughly inspected; in other words, all the organs can be put in their proper relation to one another.

When there is an injury to the bony structure, by the pulling away of some of the osseous tissue with the ligament, an exostosis may result, and often some nerve in the vicinity is caught in this hardening exudate, which may result in the loss of motion or sensation in the distal extremity. When exact work is done by operative means and a snug dressing applied around the injured joint and the operative field, swelling is less marked, pain is infrequently experienced, and the convalescent period is much shorter. The ultimate results are a more perfect joint, a little, if any, weaker than before the injury.

CONCLUSION

From personal experience and a careful study of the subject of fractures and sprains, the following conclusions are submitted:

1. Compound and comminuted fractures should invariably be operated upon.

2. Other fractures often lacerate the soft structures in and about the bone, and the injury is as great as in compound fractures, except the skin has not been punctured.

3. Such fractures should more frequently be operated upon for the replacement or removal of splinters, drainage, controlling hemorrhage, and approximation of ligamentous, muscular and bony tissue.

4. Most fractures should be examined with the *x*-ray when possible.

5. The early use of the *x*-ray shows the location and extent of the bone injury and indicates the mode of treatment, so as to lessen the strain upon the muscles involved.

6. The operative method extricates impinged ligamentous and other structures, repairs injured

nerves, lessens swelling, limits the amount of exostosis and organized exudate, and therefore avoids the risk of the callus, involving the nerve trunks or interfering with muscle action.

7. We have about concluded that the term "ununited fractures" is a myth, and will gradually fade away before the increasing knowledge of this condition.

8. Non-union is almost invariably due to the interposition of the soft tissues or imperfect apposition of the fragments.

9. The results obtained by the operative treatment of fractures will do much to relegate Buck's extension, and similar forms of treatment of fractures to the realms of past, unsurgical, methods of dealing with this form of emergency surgery.

10. Sprains are often associated with fracture or a dislocation of the bone and cartilage and therefore should also be examined with the *x*-ray.

11. The early operative treatment of bad sprains lessens the accumulation of fluid in or about the joint by establishing drainage.

12. Drainage lessens pain and prevents the organization of the exudate and therefore avoids the interference with muscle and nerve action.

13. The removal of the exudate allows of a greater degree of immobilization by a cast or splint, and makes a normal relationship of joint ligaments more possible.

14. During the operation, ligaments and other torn tissue can be sutured to their normal points of anchorage.

15. Statistics prove that the removal of the exudate from injured joints, shortens the convalescent period, produces a firmer joint, and results in a greater proportion of cures.

HOSPITAL BULLETIN

ST. BARNABAS HOSPITAL

MINNEAPOLIS

A GUMMA IN THE ABDOMINAL WALL

In the Service of Dr. C. H. Hunter

Mr. S——, aged 23, single; occupation, press-feeder.

Six weeks before admittance to the hospital the patient noticed a swelling in the lower left quadrant of the abdomen. With this mass there was no general disturbance and but little pain or tenderness. His general health was fair. The swelling gradually increased in size, until upon admittance to the hospital a hard, firm mass, irregularly rounded and about four inches in diameter, was found. It involved the abdominal wall midway between the umbilicus and the left iliac spine. The borders of the tumor or swelling were not clearly defined, but extended out gradually into the tissues of the abdominal wall. Only slight tenderness was felt on pressure. The temperature at this time varied from normal to 99.6°. No history of syphilis could be obtained, and no indication of specific disease was disclosed upon examination.

First Operation.—Jan. 27, 1905. An incision slightly internal to a point midway between the umbilicus and the left iliac spine was made through the skin and muscle to the subperitoneal tissue. The cut tissues were hard and infiltrated, and from the bottom of the wound a very small quantity of pus exuded. The cavity was packed with iodoform gauze.

Following the operation there was but a slight discharge. The indurated area failed to soften and increased in size, extending down towards Poupart's ligament.

February 6th. The leucocyte count was 14,300. Massage and hot flaxseed poultice were tried, but with no improvement.

February 17th. Examination of pus from the wound proved it to be sterile.

February 19th. Leucocyte count was 18,000. Patient's temperature at this time varied between normal and 101°, but with no definite septic cause. Owing to the increase in induration and in the leucocyte count it was thought that the drainage was insufficient, and a second operation was decided upon.

Second Operation.—The second operation was performed February 22d. An incision parallel to the first, and about two inches external to it, was made. Beneath the skin and involving the fascia a typical gumma was found. It was surrounded by dense infiltration with a degenerative center slightly yellowish in color and of a custard consistency. The muscles and subperitoneal tissue were also infiltrated with dense connective tissue with areas of degeneration. All loose softened tissue was curetted out, iodoform sprinkled in, and the cavity was then packed with iodoform gauze.

As soon as the patient recovered from the immediate effects of the operation he was placed on specific treatment: at first mercury and potassium iodid internally, followed by inunctions. Rapid improvement followed; the swelling and hardness softened and disappeared. Now, at the end of four weeks, the tissues of the left abdominal wall are as soft and flaccid as those of the right.

CITY HOSPITAL

MINNEAPOLIS

A SUCCESSFUL CASE OF HIP-JOINT AMPUTATION FOR SARCOMA OF THE FEMUR

IN THE SERVICE OF DR. J. CLARK STEWART

Katie B——, aged 14, came into my service at the City Hospital with an immense sarcoma of the left femur, as shown in the illustration. She has had this tumor for at least eighteen months, and it has grown quite rapidly during this time, until at present she is unable to walk or even turn herself in bed, and has suffered a great deal of pain in the leg.

Examination shows an under-sized and poorly nourished child with an immense tumor of the left thigh, which apparently does not encroach upon the pelvis, there being a couple of inches of free space at the upper end of the thigh. Careful examination shows no other growths in any part of the body, and no intrapelvic growth. Her red-blood count is about three and a half million, and hemoglobin 45%; urine, normal; pulse, about 110, and of poor quality.



On November 11th I did a Wyeth's amputation at the hip-joint, and was disappointed to find that there was sarcomatous infiltration of the muscles above the line of section, even involving the short muscles of the hip. The flaps had to be peeled off the tumor, and the femoral artery had to be dissected free from a tumor mass before ligation. The amputation was completed, however, without much loss of blood, and the bulk of the sarcomatous tissue was cut away, and the flaps were sutured together, being ample to cover.

The child stood the operation well, though at one time her pulse failed, and she was given a hypodermoclysis while upon the table. She reacted well after the operation, had no perceptible shock, and the next morning showed a temperature of 99°, and pulse 104,—better than before operation. She made a rapid recovery with complete healing of the stump, but soon after this secondary tumor appeared at the angle of the lower jaw, which seemed undoubtedly to be sarcomatous. In view of this, and the great uncertainty of recurrence locally, she was given injections of the mixed toxins of erysipelas and prodigiosus, from which she obtained very marked reactions, it being noted that when the toxins were injected into the tumor, reactions were very much more marked than when injected into an indifferent point. Under this treatment the stump opened up, and there was a profuse discharge of broken-down sarcoma; the tumor on the jaw became smaller, and her general health improved. Injections were given twice weekly and the dose was increased up to 13 minims, after which she obtained so severe a reaction that its further use was deemed immediately dangerous. For this reason and because the microscope showed that the original tumor was a small, round-celled sarcoma, a form eminently malignant and one not giving good results from the Coley treatment, the injections were discontinued. Since that time the tumor on the jaw has grown rapidly, and there is evidence of retroperitoneal tumor in the left groin.

The child probably has very few months to live, but her condition has been immensely improved, and she has been relieved of very great suffering by the amputation, which is therefore justified as a palliative means of treatment in this case.

CLINICAL MICROSCOPY

Conducted by George Douglas Head, M. D.

CASTS IN URINE

In an article upon the clinical significance of tube casts in urine, Thomas C. Craig (Brooklyn Medical Journal, January, 1905) thus gives his opinion concerning the significance of casts:

"One is often asked the question, Are tube casts always indicative of kidney disease? I can only give you my own individual opinion on this point by saying that it depends on the character of the cast found, and its permanency in the urine.

"Formerly we were taught that the simple finding of an innocent looking hyaline cast was an infallible sign of Bright's disease; but we know at present that this is not so, unless accompanied by other confirmatory symptoms. Hyaline casts are frequently found in the urine of healthy persons, but their presence can generally be explained by error in diet, drink, or exercise. Under these conditions they soon disappear. Then, again, we know that hyaline casts are found in the majority of cases of persons over fifty years of age who lead a strenuous life; and quite frequently in the urine of persons much younger who pursue an occupation demanding extreme muscular and mental fatigue. Then, again, we must not forget that hyaline casts are extremely common in senile degenerations of the kidneys in persons over sixty years of age. Yet in many of the above-mentioned cases there is no trace of albumin present, and no sign of disease evident, and the person lives on to advanced age."

FLICKER'S MODIFICATION OF WIDAL REACTION

One of the chief objections which has been raised to the Widal reaction as a practical help in diagnostic medicine, is the necessity of growing from day to day a living culture of the typhoid bacillus. This requires a bacteriological laboratory and considerable bacteriological knowledge. A modification of the living culture method has been devised by Ficker, which, if reliable, promises to make the test more available for clinical work.

Ficker's preparation is practically a suspension of the dead typhoid bacilli. It is a slightly cloudy fluid, which will keep for a long time if placed in a dark, cool place. The procedure for making the test is as follows:

Blood serum is obtained from the patient, and diluted ten times with sterile saline solution. Ficker collects the blood in a special test-tube by incision and cupping. By means of graduated pipettes .2 and .1 ccm. of the blood serum dilution is placed in the two glasses No. 1 and No. 2, the former containing .8 and the latter .9 ccm. of the dead culture mixture. A third glass tube contains the so-called "diagnosticum" without the blood serum. The contents of the tubes are then thoroughly mixed, and the tubes are set aside for from 10 to 14 hours, but not longer than 24 hours. If the reaction is positive the fluid in glasses 1 and 2 becomes clear, and the dead typhoid bacilli are agglutinated in the center and bottom of the glass. Ficker's method has been tested by the work of Gramann Meyer, Radzikowski, Ehrson, Blum, and others. All report the test as satisfactory, and advise its use by clinicians for practical reasons.

MALARIA AND INFECTIVE ENDOCARDITIS

Infective endocarditis occasionally presents some one of the clinical types of malarial fever. Coleman (Am. J. Med. Sci., March, 1905), in discussing the diagnosis of infective endocarditis simulating malarial fever thus sums up the evidence which a blood examination will furnish:

"In infective endocarditis there is generally, though not always, leucocytosis; in malaria leukopenia is the rule except during the paroxysms. In infective endocarditis the polynuclear leucocytes are increased; in malaria there is relative lymphocytosis. Pigmented leucocytes are found in nearly all severe and protracted or fatal cases of malaria. The red cells and hemoglobin show much the same changes in both conditions, namely, rapid marked oligocythemia, hemoglobin reduction, and degenerative changes in the cells. The recovery of the infective agent from the blood is often possible, and always conclusive, provided no other nidus than the heart valves can be found."

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DEATH OF DR. W. P. SPRING

Dr. W. P. Spring, an old friend and contributor to The Lancet, died at St. Barnabas Hospital Wednesday, March 22, 1905.

Dr. Spring graduated from Harvard Medical College in 1879, and began practice in Minneapolis soon afterward. For many years his office and residence were on the East Side, where he had a good business.

Dr. Spring had many friends all over the city. His gentle manner and the inspiration and confidence he brought to the bedside were his characteristics. He was a man of good judgment and a safe adviser.

During the past few years his work has been limited to *x*-ray work and electrotherapeutics. He made a careful study of his subject, and was enthusiastic, but not overzealous. His integrity would not permit him to make promises to his patients that he could not fulfill. His attitude toward the results of the *x*-ray treatment was in line with the best and conservative men.

He was at one time prominent in county politics, and occupied the offices of county physician and coroner of Hennepin County. He was the examining physician for the Soo line for several years.

He was a member of the American Electrotherapeutic and X-ray societies, and a member of the Minnesota State Medical Association and the Hennepin County Medical Society.

Dr. Spring was one of the quiet, gentlemanly practitioners of medicine, a man to be remembered, and one that will be missed in Minneapolis.

LEGISLATIVE CURIOSITIES.

The meeting of a legislature is like the deliberation of a jury—no one knows what the ultimate outcome of either will be.

The state legislature of Nebraska in order to make a record for economy has cut off all appropriations for the State Board of Charities and the prison visitors. The state will be unable to do any charity work for the next two years. Evidently the sick, poor, and imprisoned had no lobbyist to look after their interests. No one with a "pull" took any interest in the unfortunates.

A heroic band of legislators can easily screw up their courage to lop off appropriations for necessities when no advocate is at hand to remind the lawmakers of the needs of the dependents. To redeem themselves in some one's eyes this same legislative body passed a bill, which only lacks the Governor's signature to make it a law, requiring all Christian Science healers who heal for pay to take a four years' course in medicine, and pass the examination required of regular physicians. The Governor may not sign the bill, and if he does, the healers will get remuneration for their work in some way. If this bill is the outcome of a controversy between the medical profession and the representatives, the former are to be congratulated. Minnesota physicians long ago gave up trying to urge legislation of this kind, for each attempt was a failure. Our legislators are made out of different material; they believe in letting in any sort of healing device. Two years ago the osteopaths were legally recognized, and this year the latest defective medical freak, the chiropractics, were received with open arms. No opposition was encountered from the physicians. The larger the number of fads the better the prospects for an early death.

The medical profession suffer no loss from these new methods of treatment; the effect is upon the people. When some one has had enough he will rise and smite the offender through the courts of law. In time the people

will become educated to the fact that the physicians who practice medicine are friends, and not commercialists, and when one of the faddists commits a blunder that costs a life or two it is possible that the public will appreciate the source and cause of the error. On the other hand, no immediate results need be expected, as it takes years to convince some people that the faddist is only a fad, and that certain forms of insects live only a brief period, and then disappear from view.

Legislators are bound to protect the public, but it seems rather strange that the voice of advice from the medical man is always listened to with suspicion, while the baby appeal of the last new cure-all is received in innocent and all-abiding confidence. Such is the faith in all forms of quackery and patent medicines.

The legislature has decided to kill the pure food bill. The members evidently prefer to tempt their tissues with all kinds of preservatives and adulterants, presumably to study the effects of both a sufficient time before providing good foods for the rest of the state, which is a further evidence of blind faith, corporation influence, and poor judgment.

HOSPITAL LEAGUE

A "League of Mercy" organized in London a few years ago for the benefit of the sick poor and the hospitals has proven so successful that a work on similar lines has been organized in New York. For a few months past the same plan has been carefully considered in Minneapolis, and was to have been brought before the Hennepin County Medical Society at its March meeting, but the illness of the promoter prevented it.

Each hospital in the city, public or private, is to have a representative on a board to comprise a committee to raise an endowment fund to be distributed among the hospitals. The principal object is to create a system to stimulate and educate the public to give annually a sum of money for the benefit of the hospitals and the care of the needy. Under the present state of affairs the hospitals usually face a deficit at the end of the year, and thus make it difficult for any hospital to do the charity work that is necessary for the good of the sick poor.

A central committee with a paid business manager to inaugurate a system and make it broad and far-reaching is the second aim of the organization. A committee of this kind would be able to study the hospital problem and persistently educate the public in right giving. Such an organization would do away with the haphazard methods usually employed. It would also take the place of large social functions ostensibly given to raise money for a single institution. It would also give an opportunity to those who are able to give but little money to help by suggesting means to others or permitting the man of moderate means to raise a certain sum from his fellows. Doubtless various methods will suggest themselves. Much can be done through the churches and organizations of all kinds all over the city. A certain sum can be set aside for the hospital fund, and, together with that raised from private sources, the amount should be large. A distribution among the hospitals would remove the deficits, relieve embarrassing situations, and provide for the care of a large number of deserving cases. The New York plan will be watched with interest, and if an interest can be aroused among the well-known generously inclined Minneapolitans the organization can be easily promoted.

The work of the chairman of such a committee will be engrossing until the organization is perfected. After the plan is explained and the people educated to giving, the system would run smoothly with a constant influx of money.

MISSOURI DECISION AGAINST OSTEOPATHS

The Journal of the A. M. A. for March 18th publishes the full text of the supreme court ruling in a suit for damages for treating hip disease as partial dislocation. The suit was the outcome of a case that was treated at Kirksville by the president of the A. T. Still Infirmary, the home of osteopathy.

The patient, a child of seven, was afflicted with a slight stiffness of the right hip, but it was not sufficient to make her lame or to cause her pain or to materially interfere with locomotion. She received preparatory treatment to relax the muscles and tendons, then the "partial dislocation" was forcibly reduced, and became

a complete upward and backward dislocation followed by severe pain, fever and atrophy, and uselessness of the right hip and leg. Previous to the treatment the child was apparently healthy, and able to walk and play.

The defendant at first made a diagnosis of partial dislocation, and denied the existence of hip-joint disease, which had been previously diagnosed by regular physicians. In answer to the complaint in the suit the defendant alleged that the child was afflicted with hip-joint disease and partial dislocation. The plaintiff tried the case on the theory that the defendant's diagnosis was incorrect, and that the child had hip disease in its primary stage, and that the defendant's treatment was improper, negligent, and unskillful.

The defendant tried the case on the theory, first, that the plaintiff had hip disease and partial dislocation; and, second, that she showed no damage because the same result would have ensued from hip disease, and that the treatment for partial dislocation did no injury.

The chief contention is that the witnesses introduced by the plaintiff belong to different and hostile schools or systems from his, and therefore are not competent to give an opinion in the case, and that he must be judged by persons of his own school.

The supreme court ruled against the defendant in everything, and remanded the case to the circuit court to be tried in accordance with this ruling.

The case was interesting, as it settled many important points, and made clear the fact that the osteopath was in many respects a practitioner of medicine, used the text-books of regular physicians, and was subject to criticism by physicians of the regular school of medicine in questions of diagnosis and treatment.

Cases like this educate the people more than fighting before legislative bodies, and will eventually show that osteopathy and chiropractic are forms of massage, and, in the hands of the unskilled, may do more harm than good. Perhaps in time there may be one common law that will protect the public and the physician, and give to each a sense of security without depriving the patient of the forms of treatment he may select, but, guarded by provisions that will insure reasonable skill from educated men.

REPORTS OF SOCIETIES

HENNEPIN COUNTY MEDICAL SOCIETY

F. A. Knights, M. D., Secretary

A stated meeting of the Hennepin County Medical Society was held March 6th, Dr. David Owen Thomas, president, in the chair, and about sixty members present.

The Executive Committee reported by the secretary recommending the change of the hour of meeting from 8 o'clock to 7:45. This recommendation was approved by vote of the Society.

The committee reported on the resolution of Dr. Abbott, presented at the last meeting, recommending the adoption of the resolution modified as follows:

"Resolved, That matters of business coming before the Hennepin County Medical Society, except such as are otherwise provided for in the constitution and by-laws, shall be referred without debate, unless objection be made, to the Executive Committee with power to act in all matters of emergency, a report of such action to be made to the Society.

Other items of business shall after due consideration by the committee be referred back to the Society, with a recommendation, at the next regular meeting. This resolution does not refer to business initiated by the Executive Committee, and presented to the Society by them, nor to reports of special committees. This resolution as modified was adopted by motion.

The Executive Committee reported also that Dr. Clarence Webster, of Chicago, had accepted an invitation to address the Society at the Annual banquet, but that on account of certain engagements of Dr. Webster's it might be necessary to postpone the annual banquet to May 1st.

The application for membership of Dr. Arthur S. Hamilton, formerly of Independence, Iowa, accompanied by his transfer card from the Buchanan County (Iowa) Society was read, and laid over till next meeting.

The Censors reported favorably upon the application for reinstatement of Dr. J. S. Macnie, and on ballot he was declared reinstated.

The trustees reported by Dr. H. H. Kimball concerning the recently proposed quarters for the Society at Sixth St. and First Ave. S., that nothing definite was known about the matter.

Dr. E. J. Brown presented resolutions advocating the organization and incorporation of "The Physicians Optical Company and Optical Infirmary Association of Minneapolis." This was referred to the Executive Committee.

Dr. Geo. D. Head presented a resolution of the Health Committee of the Protective League, as follows:

Resolved, That the Hennepin County Medical Society is in favor of the sand-filtration method of purifying the water supply for the city of Minneapolis, and urges upon the legislative delegation of Hennepin County the necessity of securing the passage of a bill through the State legislature, permitting the city of Minneapolis to issue bonds to the amount of one million dollars for the purpose of securing a pure water supply.

It was moved and seconded that the Society discuss and vote upon this resolution, and this motion carried.

It was moved and seconded that the resolution be adopted by the Society, and a copy sent to our representatives at St. Paul. After discussion for half an hour the motion was carried.

The president appointed Dr. J. H. Stuart to prepare a memorial address on the life of Dr. A. H. Lindley to be delivered at the next meeting.

Dr. W. P. Pineo reported a case of "Hysterical Amblyopia."

Dr. H. L. Staples reported a case of "Carcinoma Associated with Cardiospasm."

Dr. Geo. D. Head reported a case of "Amebic Dysentery."

Dr. J. H. Stuart read a paper on "Electro-Therapeutics."

Dr. W. H. Murray read a paper on "The Etiology, Diagnosis, and Treatment of the Acute Inflammations of the Anterior Group of the Accessory Sinuses of the Nose." This paper was discussed by Dr. J. A. Watson, Dr. E. J. Brown, Dr. C. N. Spratt, and Dr. C. J. Spratt, Dr. Murray closing.

MINNESOTA ACADEMY OF MEDICINE

Arthur W. Dunning, M. D., Secretary

The regular meeting of the Academy was held at the Commercial Club, St. Paul, Wednesday evening, March 1st. President Vander Horck was in the chair. There were 19 members present.

Dr. Chas. L. Greene discussed the subject of "Acromegalia," and demonstrated a case.

Dr. J. T. Rogers, of St. Paul, presented specimens of two fibroid tumors and a phosphatic calculus removed from the bladder.

Dr. A. W. Abbott, of Minneapolis, reported a case of kidney removed from a young woman five weeks after the first symptoms. Examination revealed a tubercular mass in its upper pole. The symptoms were frequent urination at first, blood and tubercle bacilli in the urine, and rapid emaciation.

BOOK NOTICES

Hand-Book of the Anatomy and Diseases of the Eye and Ear. By D. B. St. John Roosa, M. D., LL. D., and A. Edward Davis, A. M., M. D. Philadelphia: F. A. Davis Company.

Every work on special subjects which is well written by men thoroughly familiar with what they write about, and is kept within the needs of general practitioners, has an excuse for being. Such a work Drs. Roosa and Davis have given the profession.

The general practitioner who does not know a good deal about the eye and ear, and, especially, who does not know when diseases of these organs call for the work of the specialist, will do, or allow, an immense amount of suffering for which there is no excuse.

In this small and inexpensive volume will be found, expressed in very clear language, about all the general practitioner needs to know, and knowing this volume well he need never fear that his ignorance of more complete knowledge will give him or his patients cause for regret.

General Medicine. By Frank Billings, M. S., M. D., Dean of Rush Medical College, and J. H. Salisbury, M. D., Professor of Medicine, Chicago Clinical School. Chicago: The Year Book Publishers.

This is the first volume of the "Practical Medicine Series of Year Books," which is under the editorial charge of Dr. Gustavus Head, of the Chicago Post-Graduate Medical School. The series will comprise ten volumes to be issued at monthly intervals, and to cover the field of medicine and surgery for 1904.

Dr. Head is doing his work well; in fact, entirely satisfactorily; and such a series, with names upon each volume as well known as Billings and Salisbury, will make the publication very valuable, not only to the general practitioner, but to all specialists, who need buy only the volumes they are severally interested in.

The books of this company are gotten up in much better style than formerly, the paper especially having improved; but the printers do not do their work well. We wish such a series of books might equal or excel, in their typographical appearance, the work of eastern shops. Both Dr. Head and his associates deserve this much.

Modern Ophthalmology. A Practical Treatise on the Anatomy, Physiology, and Diseases of the Eye. By James Moores Ball, M. D., Professor of Ophthalmology in the St. Louis College of Physicians and Surgeons. With 417 Illustrations in the Text and Numerous Figures on 21 Colored Plates, nearly all Original. 820 Pages, Extra Large Royal Octavo. Price, Extra Cloth, $7.00 net; Half-morocco, $8.50 net. Philadelphia: F. A. Davis Company.

As a rule an author is on very dangerous ground when he writes for both the specialist and the general practitioner, for he generally obscures the view of the latter by minute technical matters, and repels from his book the former by too much that is elementary. In most cases Dr. Ball has avoided these difficulties, and by a lucid style has avoided obscurity and also made the elements of his subject interesting. The author has wisely, we think, included in his volume embryology, anatomy, physiology, and diseases of the eye; and this course is especially desirable for the general practitioner and for the student.

Unless a writer can give all his time for a good many years to the preparation of such a work, he is wise in calling in assistance, and so Dr. Ball did well to have quite a number of chapters in his work prepared by others; and he was fortunate to get such men as Zentmayer, Knipe, Shoemaker (W. T.), Krall, Goldberg, Fischer, Grindon, and Ohmann-Dumesnil to assist him. He was equally fortunate in his publishers, who have enriched the work with a very large number of high-grade illustrations, a good many of which are entirely new, and were made under the supervision of the author.

A Practical Treatise on Diseases of the Skin. By James Nevins Hyde, A. M., M. D., Professor of Skin, Genito-urinary and Venereal Diseases, Rush Medical College, Chicago, etc.; and Frank Hugh Montgomery, M. D., Associate to Dr. Hyde. Seventh Revised Edition, Illustrated with 107 Engravings and 34 Plates in Color and Monochrome. Philadelphia: Lea Brothers & Co.

This new edition comes to the profession bearing the stamp of approval manifest in the demand for a seventh edition, and bearing the names of men who stand very near the head of their profession; in short, the new edition bears the stamp of authority. But there is still more to be said; the work of revision has been thoroughly done by both authors and publishers, and it must be remembered that in no other department of medicine does so much depend upon illustrations. There is a wealth of photographic, and therefore exact, illustration in this volume; and it adds much to the clear text of the authors.

Much that is new also appears in the volume, such, for instance, as the place of the *x*-ray and light treatments in diseases of the skin; general pathology of the skin; etc.

Too many text-books of this kind cannot come from the press, but at best they will be few in number, for such volumes leave little room for the inferior work of men poorly equipped by technical knowledge, experience, and literary ability.

NEWS ITEMS

Dr. C. W. Woodruff has moved from Wykoff to Chatfield.

Dr. Olaf Bantzen, of Christiania, Norway, has located at Minot, N. D.

Plans are under way for the enlargement of St. Joseph's Hospital at Mankato.

Dr. R. O. Broadway, of Bryant, S. D., has moved to De Smet, in the same state.

Dr. Gottleib Oppliger, who formerly practiced in Minneapolis, has now a successful practice in Warroad.

Dr. G. P. Bearman, of Fisher, has moved to Hawley. Dr. Bearman is a graduate of McGill, class of '98.

Dr. Horace M. Hall, of Butte, Mont., was married last month to Mrs. Purdon Smith Miller, also of Butte.

Dr. F. J. Halloran, of Chatfield, has moved to St. Paul, and will devote himself to stomach and heart diseases.

Dr. A. Torland, who recently located at Osakis, has given up practice at that place, and will locate elsewhere.

Word is received from Europe that Dr. I. N. Wear, of Fargo, now traveling for his health, is much improved.

Dr. A. W. Macdonald, of Courtenay, N. D., has been doing post-graduate work at the New Orleans Polyclinic this winter.

St. James will make a high bid for the new hospital which the Evangelical Lutheran Association of southern Minnesota will build.

Dr. H. Denman, a graduate of Jefferson Medical College of Philadelphia, has bought the practice of Dr. J. E. Coulter, of De Smet, S. D.

Dr. J. A. Greig, a pioneer physician of North Dakota, who settled at Bottineau in early territorial days, died last month at North Yakima, Wash.

Dr. W. N. Kendrick, of Austin, has resumed practice at Spring Valley, being induced to do so by the death of his half brother, Dr. J. R. Johnson.

Dr. A. B. Ancker has been re-elected city and county physician of St. Paul. No other candidate sought the office and Dr. Ancker received a unanimous vote.

J. R. Rider and A. R. Starr, formerly of Battle Creek, Mich., have bought land in North Yakima, Wash., upon which they will build a $25,000 sanatorium building.

Dr. T. Bratrud is president of the Warren Hospital Association which has incorporated for the purpose of erecting a building, and conducting a hospital at Warren.

Dr. Hugh Russell, a pioneer physician of Superior, Wis., died suddenly last month at the age of 78. He was born in Ireland, and was a graduate of Rush, class of '56.

Pokegama Lake, which is near Pine City and is reached by launch from that place, is to have a sanatorium for tuberculosis patients. It will be in charge of Dr. R. L. Wiseman.

Argyle has plans under way for a creditable hospital. Money will be raised by stock subscription for the building, and it is hoped that work may be begun on the building.

The citizens of Worthington are very enthusiastic over the plan to build a city hospital, and almost without exception the business men will contribute liberally to the movement.

Dr. John E. Coulter, of De Smet, S. D., who has enjoyed for ten years a practice almost too large, has decided to give up general practice, and take up special work. He leaves behind him a large circle of friends.

Dr. W. P. Spring, of Minneapolis, died last month from gas asphyxiation, the result of an accident while working in his *x*-ray laboratory. Further notice of Dr. Spring's life and work appears in our editorial columns.

Physicians who attempt to practice in South Dakota without a license soon find themselves with a lawsuit on hand, with the State Board of Medical Examiners as prosecutors. A good law and a good board will soon drive from the state all incompetents.

Drs. O. W. Archibald and Angus MacDonald, of St. Paul, have formed a partnership with offices in the Lowry Arcade. They are specialists in eye, ear, nose and throat work. Dr. MacDonald has just returned from a visit to the leading hospitals of the East.

The University of North Dakota has decided to establish a medical department, to be opened next fall. The course will cover only two years, and diplomas will not be granted. It is believed that all other medical schools will give students who have taken this course due credit for the time.

The U. S. Civil Service Commission will hold examinations on the 26th and 27th inst., at 185 cities situated in every state and territory in the Union, including Hawaii and Porto Rico, to fill a vacancy in the position of female physician in the Government Hospital for the Insane, Washington, D. C. The salary is $1,500 and quarters.

In a case of malpractice now on trial in this state, the charge is made that the attending physician denied the existence of diphtheria in the plaintiff's family, and placing the handle of a spoon in a child's mouth to examine the throat, immediately placed it in the throat of the father (the plaintiff). Diphtheria resulted, and hence the case.

Epiphany, S. D., is a town of mourning, over lost business, since the death of Father Kroeger. His various properties, including a sanatorium and a hotel, are to be sold at auction. Why doesn't some enterprising quack advertise that Father Kroeger's secret has been discovered, and so go on with the same barrel of medicine, which will produce another barrel of money?

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TWO STOMACH CASES GIVING VERY UNLIKE FINDINGS, ALTHOUGH MANY SYMPTOMS AND CONDITIONS IN COMMON*

By Dr. S. P. Rees, M. D.

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MINNEAPOLIS

Case I

Mrs. E. C. S——, from R——, Wis., Norwegian; aged 65; married 46 yrs.; has 14 children, 7 boys and 7 girls of whom the youngest is 19 yrs. of age; all alive and well.

Family History.—Father died at 65 of heart disease. Mother died at 36 of pulmonary tuberculosis; two brothers living and well; sister living and well, none dead.

Personal History.—Always strong and well. Has been sick only twice in her life. Had "bloody flux" when 30 years old. When 48 years old, at the menopause, she flowed so much that she became nearly exsanguinated. Since then she has not been strong, although perfectly well and able to do all her household work.

Present Illness.—Pain and gas in the stomach coming on three hours after meals, the trouble has existed all summer and fall, but has been much worse the last four weeks in spite of constant treatment. She is now very weak, the heart flutters on slight exertion, and she is short of breath. Has lost 20 lbs. by actual weight this fall. Is constipated. Has never vomited food, but simply gulped up gas between meals.

Physical Examination.—We have before us a rather tall, well proportioned woman, who looks extremely ill. She is very pale, but considering her age and out-of-door life does not show that dirty-gray tint we call cachexia. Her face is sunken and relaxed, showing suffering and marked loss of flesh, but the features quickly light up when stimulated and reveal for the moment something of that fire of spirit and bodily energy that were surely hers in former years. Nationality counts for much; the Norwegian is usually alert and sturdy with good nerves. Her life as a farmer has served to preserve in her those inborn traits. Her 14 living children also testify to a sound constitution and good habits.

The bared chest seems normal. The lungs are clear, the heart negative, pulse 76 to 80, fairly strong and perfectly regular, no marked change in vessels. Temperature 98.6°. The tongue is slightly coated, but the breath is not foul; there is complete loss of appetite.

To examine the abdomen we ask the patient to lie down with head and chest slightly raised on the pillow, the hands resting by her side, the mouth slightly open and the whole body relaxed. We scrutinize the abdomen closely in different lights while she is breathing slowly and deeply, but find nothing abnormal. Careful palpation with the soft finger-tips reveals no hardening in any part of the stomach wall that can be reached; no tumor, no tenderness, no rigidity of any part of the abdominal wall. The pylorus does not seem thickened. The other regions of the abdomen, examining each in the usual order—the left upper, left lower, right lower and right upper quadrants—reveal nothing unusual. The spleen and liver are normal, and there is no tenderness over either kidney.

The patient has taken nothing this morning except a slice of stale white bread and a big glass

*Abstract of a clinical lecture delivered to the senior class of the State University at the City Hospital, Dec. '04

of water, eaten just one hour ago. We will remove this with a tube.

We first notice that in order to obtain the stomach contents the tube must apparently be inserted further than the mark indicated for the teeth line. It seems also that the stomach is not easily emptied, for the test-meal is recovered very slowly and only after gently playing the tube back and forth to stimulate contraction. We consider this much safer than "aspirating" the stomach, as some practice, and only very slowly and gently squeeze the bulb to dislodge any solid particles that might have plugged its lumen.

From these two observations made while removing the contents we begin to suspect a dilated or prolapsed stomach, with a weak muscle. We now ask the patient to close the lips snugly about the tube, place both hands over the abdomen, and exert some pressure while she bears down as if to have a movement of the bowels. We are rewarded by recovering all of the test breakfast without any dilution. This is important, as we desire to test for free HCl. Notice that there is no mucus, that reaction to litmus is faintly acid, and that the odor is almost sweet, having neither the foul odor of lactic acid nor the pungent, fermenting odor of acetic acid. The bread shows slight digestion, for the starch particles are beginning to lose that hard, solid look, and to become soft and swollen. From these physical appearances, which should never be passed unnoticed, we shall expect to find a small trace of HCl with a practical absence of the organic acids. Töpfer's solution added to a little filtrate gives a very pale-cherry color, showing a small trace of HCl to be present. If the test breakfast consists of rice-cake and water, which will not take up the HCl in combination, and the stomach contents are recovered without being diluted we have found by experience that we can go further, and by the intensity of this color and the amount of reagent added determine the percentage of free HCl present. Uffelmann's test shows absence of lactic acid.

The stomach is now washed empty, and shows that no food particles from last night's meal have been delayed in the stomach. This gives likely evidence of a patent pylorus. To outline the stomach we give 60 grs. tartaric acid in water, followed by 80 grs. sodium bicarbonate in solution; the soda is given in two portions to avoid any sudden or excessive distension. Evidently the stomach is roomy enough to hold all the gas generated, and although the patient is old and the heart muscle feeble there are no symptoms of pressure against the heart. We now find the stomach to extend four fingers' breadth below the navel. Notice how clearly with the stethoscope over this spot you can hear the gas passing out of the stomach. The instrument is evidently right over the pylorus. Note also how accurately by auscultatory percussion we can outline the upper border and cardiac end of the stomach, although covered by liver and lung tissue; thus proving this to be not a prolapsed stomach of normal size, but one very much dilated. The early passing of gas through the pylorus, and the clinical fact that she never has vomited food, speak for an open pylorus. The force with which the stomach contents were expelled through the tube when once started shows the gastric muscle to have still considerable power.

Those facts which can be quickly and positively learned, are early determined in the investigation of such a case without waiting for any set order or routine. Thus a urinalysis, or a blood or sputum examination, is done at once, before much time is spent with the patient. The first urinalysis showed as follows:

Sp. gr. 1010, acid, pale; albumin, trace; sugar, none.

Microscope: a few pus cells and a few rather slender and atypical hyaline casts. The second specimen:

Sp. gr. 1018, acid, amber, slightly cloudy; albumin none (Heller). No casts were found after a long search, but enough pus cells were present to explain the trace of albumin which certain tests still brought out.

A fresh blood drop is normal except for the paleness of the red-blood corpuscles.

DISCUSSION OF SYMPTOMS AND PHYSICAL FINDINGS

When the patient first came to the city, two days ago, the history was carefully taken, just as you have heard it recorded this morning, the physical examination made, and she was allowed to eat a full supper, but to take only a test break-

fast the next morning and report at the office within one hour. This test breakfast showed no free HCl and no lactic acid; and the stomach washing proved that the previous supper of soft eggs, toast, junket, and milk had passed out of the stomach. She was astonished that the supper had given her less trouble during the night than any other meal she had taken for weeks, although she had been closely dieted on strained oat-meal gruel, dry toast, soft or raw eggs, etc. The test breakfast showed a cleaner condition of the stomach than I anticipated. However, we must remember that the tartaric acid and soda used on the previous afternoon to outline the stomach had probably cleaned out things pretty well. To determine what the stomach could do with mixed food when previously made clean and empty, as it now was, she was given a full meal of rare steak, eggs, milk, and bread. This was removed in 3½ hours.

The food was undigested, had a strong, foul odor, and was acid to litmus.

The filtrate examined quantitatively by the Carl Braun incineration test showed no free hydrochloric acid, a small trace of hydrochloric acid in combination, and a total free acidity which corresponded to the small amount of acid salts and organic acids found present. The important item in this analysis is the absence of free hydrochloric acid at the height of digestion, for by it we measure directly the digestive power of the stomach.

Her complaint of gas and pain coming on about three hours after meals would, in a woman of her age, generally mean fermentation due to organic acids. Pain due to hyperchlorhydria generally appears soon, and reaches its maximum from one and one-half to two hours after meals. Hyperchlorhydria often causes gas as well as pain. Dilitation and not gastroptosis has already been demonstrated, by percussion with stomach inflated, that the enlargement is not due to obstruction at the pylorus from any growth in the gastric wall, or adhesions or pressure from outside of the stomach is proven clinically by the fact she has never vomited food, and physically by finding the stomach empty in the morning after a fair supper. We also heard the gas pass at once, and freely through the pylorus out of the distended stomach. We have then a large, flabby stomach, poorly nourished, whose secretions are much diminished, and in which the food easily ferments and becomes a poison, instead of a food.

The cause for this condition can well be accounted for by the facts brought out in the history: her age, a life of hard work and hardships, the physical drain of rearing a family of fourteen children, on top of which are two severe and very depleting illnesses occurring at critical periods in her life, bloody flux at 30, at the age when she was perhaps doing her hardest physical work, and did not take time to fully recover from its weakening effects, and the nearly fatal metrorrhagia at 48, producing an extreme anemia from which the glandular and muscular structures of the stomach never recovered. Other organs did in part recover, but not knowing how to lighten by diet the work of the stomach it soon found itself unable to clear itself completely, and each successive meal added to its burden a little more until the inadequate secretions failed to digest enough of the food to empty the stomach, the general nutrition dropped, and this made still more flabby a stomach muscle already weakened by the weight of undigested food and retained gases.

Whether a malignant growth is developing we can not absolutely determine now. I think not, and yet to her husband we must express such a possibility. If not malignant, the prognosis under close treatment is good.

We will advise the following treatment: For the general weakness and anemia, rest a good deal in the sunlight. Lie down for an hour before dinner and supper. Get as much fresh air as possible. When the weather permits, be out doors all day.

To avoid overloading the stomach and unduly diluting its secretions, drink very little with meals. Drink water three and four hours *after* meals; drink nothing else.

To cleanse and sweeten the stomach each morning take some effervescing powder in a tumbler of water one hour before breakfast. Use a laxative tablet at bedtime so regulated as to produce a movement each day.

To stimulate gastric secretion and to coax back (if possible) hydrochloric acid, take fifteen minutes before meals in a little water a few grains

of sodium bicarbonate in the bitter tinctures of nux vomica, gentian and columba.

To give the patient a start, and to be continued as long as it may be necessary, give shortly after meals in two divided doses one hour apart a full dose of strychnine and hydrochloric acid in a good essence of pepsin and pancreatin.

Do not eat any sugar, sweets, fats, fried foods, coarse vegetables, soft bread or cakes, preserves, or fruit and vegetables combined with milk or cream.

Follow strictly the diet list given:

Breakfast: Dry toast, a soft boiled egg, a cup of beef tea (without a trace of fat), a cereal cooked for three or four hours.

Dinner: A cup of beef tea, rare steak broiled and chopped very fine, rice cooked in milk four hours, stale bread or brown toast, junket or plain custard, a garden green such as celery, spinach or asparagus well cooked and served with salt.

Supper: A very small lunch of broth or cocoa made in milk, toast, plain custard or junket, stewed prunes without sugar.

Note: The patient reports by letter constant improvement; is gaining strength and weight, and handles her food well.

Case II

Mr. W. F. L——, from F——, Minn.; American; aged 28; married 7 months; dentist; height, 6 ft., weight 135 lbs.; does not use tobacco or alcohol.

Family History.—Father living, aged 61, well; mother living, aged 56, well; three brothers, of whom two are living and well; one died, aged 1 year, of some acute trouble; one sister living, well; one paternal uncle died of tuberculosis.

Personal History.—Has always been well, and fairly strong. Had measles in 1896; la grippe three years ago.

Present Complaint.—Has lost 20 lbs. in six months. The appetite is abnormally good. An hour after taking an ordinary meal a sensation of weight and fulness is felt in the stomach, and he feels stupid, heavy, and tired all over. There is no sharp pain or burning sensation in the stomach. The feeling of fulness lasts for a variable time according to the amount and kind of food taken, remaining present from four to forty-eight hours. As soon as this feeling of fulness disappears, patient feels very hungry, and tells of a "gone" or empty feeling in the stomach. Mornings he is especially hungry, and if he attempts to do any work, however light, before taking food, feels very faint. A few mouthfuls of food will cause the faintness to disappear. This experience has been almost continuous from day to day for more than a year. He has vomited twice during the last year. In February, 1904, after an ordinary supper he ate, later in the evening, some fruit and nuts. The food remained in his stomach for 48 hours, as shown by the vomitus containing all of the nuts eaten. During these 48 hours, however, he felt hungry as usual, enjoyed a good appetite and ate his regular meals. Vomiting was caused by fulness and not by pain. He does not now remember accurately the taste and smell of the vomited material; but recalls that it was sour and amounted to about three pints.

In July, 1904, he again vomited. Saturday afternoon at 3 o'clock the food came up that had been eaten the previous evening. It was a church supper, consisting of doughnuts, coffee, potato salad, and sandwiches. He had eaten this while very tired from his day's work, but did not realize until the next morning that the lunch would cause trouble. The stomach felt heavy, he was still hungry and had eaten his usual breakfast that morning. He gulps up gas more or less continuously, and occasionally a sour fluid is brought up. During the first hour or two of digestion small particles of digested food are also regurgitated.

The bowels have been fairly regular except for the last two months, during which he has used the stomach-pump once a day.

Physical Examination.—Very spare in flesh; complexion is clear, and the sclera are a clean white; tongue is clear and the breath sweet; pulse is 56, sitting, fairly strong and regular; the chest is negative; temperature 98.6°.

The stomach on palpation reveals no tender spots or induration. The pylorus is not prominent, nor is it tender as we roll it under the fingers. The neurotic temperament of the man is well shown by the manner in which the recti quickly stiffen like two steel bands under the least careless manipulation. Moderately distended by gas, the stomach reaches three fingers' breadth below the umbilicus, and upwards to its normal level, so that a true enlargement

exists. There is no history of any tender spot felt over any region of the abdomen, and none can be found on the most thorough palpation. Other abdominal organs are seemingly normal.

The urine is negative.

Of the test-breakfast all was recovered in 60 minutes. The bread was thoroughly digested. Free HCl present was 0.4.

A full test-meal of steak, eggs, bread, milk, and stewed prunes, removed in 3½ hours, gives the following results:

The total free acidity, including free hydrochloric acid, acid salts and organic acids, if present, was 0.6 per cent.

Phenolthalein, a 1 per cent alcoholic solution, being used as the indicator, and 1-10 normal sodium hydrate solution as the titration fluid.

The free and combined hydrochloric acid was about 0.8 per cent.

Organic acids, upon incineration, were practically absent.

The patient first came to the office late one afternoon. Before taking the train for the city he had eaten an early breakfast, consisting of a wheat breakfast food and cream, stale bread, rare beefsteak, and water. On the train, at 11:30 a. m., he had eaten an orange, a meat sandwich, two oatmeal crackers, and some cheese. Since then he had taken no food until the stomach was washed out at 5:30 p. m. to ascertain its contents, and it was found empty except for a few shreds of orange.

DISCUSSION OF SYMPTOMS AND PHYSICAL FINDINGS

The weight and fulness in the stomach, accompanied by a stupid and tired feeling all over, and coming on after eating, suggest at once imperfect digestion with fermentation. In our patient this occurs generally as early as one hour after meals, the appetite remains keen, the tongue clean and the breath sweet, which is usually not the case when the gastric juice is deficient. Evidently here we have a right to suspect that the gastric muscle is primarily at fault in not emptying the stomach promptly. When to this condition is added the slightest indiscretion in diet, serious trouble arises. Such cases must not only have certain foodstuffs, prescribed as the only articles of diet, but the *combinations* of such foodstuffs are of more importance than the articles themselves if eaten separately.

His neurotic temperament, his close application to work, his college record of one of the most industrious and able men in his class, his profession which compels him to stand for hours by his chair bending over his work, would well account for a gradual change to the present condition. If to this be added the habit of hurried eating, a hotel diet, with an attack of grip three years ago that may have left him weak and from which impairment the gastric muscle was given no chance to recover, sufficient cause for the present condition is found.

There are no signs pointing to ulcer, and no indication of any obstruction to the pylorus, except the irritation and spasm caused by the hyperchlorhydria present and the gas thereby produced.

We will advise the following treatment:

1. Rest in the recumbent position ½ hour before and ½ hour after meals, to avoid undue gastric irritability.

2. Between meals and during the lengthened hours for recreation, out-door life. Horseback riding and gardening are especially recommended.

3. A cold sponge bath or plunge mornings, followed by a brisk rub, to tone the general nervous system.

4. Hot water taken an hour before dinner and supper. Little fluid taken with the meals, but plenty of water taken between meals in small successive doses. In this way we avoid overloading the flabby and dilated stomach, and yet furnish the water necessary for absorption, and to overcome the hyperchlorhydria present.

5. In place of stomach washing, which in itself is irritating to an over sensitive stomach, and which may remove some food, which in this case is sorely needed to furnish strength to the patient, give a large dose of some effervescing, laxative powder in a glass of water one hour before breakfast. Kutnow's powder is a good type of such an article.

6. Chew the food finer than ever before. Eat only the prescribed articles. Avoid especially the following combinations:

a. Milk or cream and sugar.

b. Vegetables and fruit.

c. Vegetables and milk.
d. Fruit and milk.
e. Fats and vegetables.

7. Diet list:

Breakfast,—a soft boiled egg; a small piece of crisp bacon; dry brown toast; a cup of Phillip's digestible cocoa made in milk without sugar.

Lunch: ½ cup clear broth, not too spicy or fat; dry brown toast; a cup of plain custard or junket; a small glass of milk.

Dinner: Rare lean beefsteak; rice, cooked in milk four hours; toast or stale bread; cup-custard or junket; milk or cocoa; stewed prunes without sugar.

8. Give a full dose of strychnia, (gr. 1-30) in a good malt, a half hour after each meal for a local and general tonic. To overcome the irritating effects of the hyperchlorhydria, give, 1 hour after meals, a level teaspoonful of the following: Magnesiæ ustæ, bismuthi subcarbonatis, sodii bicarbonatis, aa ℥i, and repeat in one hour if needed.

Note. The patient reports gradual improvement and some gain in weight.

THE ETIOLOGY, DIAGNOSIS, AND TREATMENT OF ACUTE INFLAMMATIONS OF THE ANTERIOR GROUP OF THE NASAL ACCESSORY SINUSES*

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MINNEAPOLIS

While the subject of sinusitis is one which has been covered rather extensively in medical literature during recent years, I believe that the advances which have been made toward a better understanding and a more intelligent treatment of these conditions will warrant my bringing this subject before you, with the idea that a fuller appreciation of the etiological factors concerned in the production of these sinus involvements, will help us in our handling of these cases.

In the anterior group of sinuses I have included those cavities which have their natural outlets in the middle meatus through the infundibulum, and these openings from the respective sinuses bear such an intimate anatomical relationship to each other that an involvement of one sinus is frequently attended by an involvement of one or both of the adjacent ones. I refer to the maxillary and frontal sinuses and the anterior ethmoidal cells, as distinguished from the posterior group comprising the sphenoidal sinus and the posterior ethmoidal cells, which communicate with the superior meatus.

Before discussing in detail the etiology of these sinus inflammations I wish briefly to recall to your mind some of the anatomical conditions present, which, we will see later, are important factors, not only in arriving at a correct diagnosis, but in determining our line of treatment.

The frontal sinus begins to develop about the second year, is recognized as a distinct cavity about the seventh year, and gradually increases in size until it reaches its full development about the thirtieth year. This cavity is separated from important structures, as the anterior lobe of the brain above and the orbit below, by a thin plate of bone, and in the presence of an acute purulent inflammation of the sinus, with obstruction to drainage for the inflammatory products through the nasofrontal duct, a perforation of these thin bony layers might easily occur, and to delay surgical interference in these cases means subjecting the patient to the danger of cerebral complications that may prove fatal. There is also occasionally present a communication between the two frontal sinuses through the thin bony partition which separates them.

In connection with the ethmoidal cells we should remember that they sometimes extend laterally beneath the frontal sinus, above the roof of the orbit, and occasionally they extend laterally beneath the floor of the orbit; that they

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are in intimate relationship with the frontal sinus; and that in suppurative diseases of the frontal sinus they are very liable to be affected.

The maxillary antrum, at birth, is present only as a slit-like aperture in the upper maxillary bone, and at this time the alveolar process and the lower floor of the orbit are but slightly separated, the sinus itself developing later in life by an absorption of the cancellous tissue until, in the adult, the sinus is fully developed, and at this time it is often irregular and contains a thin bony partition, which in its lower part practically divides it into two or more cavities. This is of importance in determining our method of drainage in acute cases, and it is an important factor to be remembered in our treatment of chronic cases accompanied by degeneration of the lining membrane, where it is necessary to do a radical operation, and curette freely the membrane in all parts of the cavity. It will be remembered also that the floor of the antrum is about on a level with the floor of the nasal passages, a factor of importance in those cases in which we find it advisable to make an opening for drainage from the nasal cavity into the antrum. The osteum maxillare, or natural opening from the maxillary sinus, is situated, together with the openings from the frontal sinus and anterior ethmoidal cells, high up on the anterior wall of the middle meatus and just behind the anterior end of the middle turbinate, and communicates with the antrum in its upper part. This is a point of importance, first, in that it affords an unfavorable location for drainage, the dependant portion of all cavities affording the most favorable site; secondly, the openings of these three cavities being in such close relationship to each other, the purulent discharge from a frontal empyema or an anterior ethmoidal may easily be diverted into the maxillary sinus, in which case the latter merely acts as a reservoir for the discharge from the former, and any treatment directed to the relief of the antral empyema will be unsuccessful until the original source of the infection has been removed; and, thirdly, it will be readily perceived from the anatomical relation of the middle turbinate to these openings that in many cases it is essential that at least the anterior part of the former should be removed in order to secure free drainage through the latter.

It will be remembered also that the antrum forms a part of the outer wall of the nasal cavity, that this wall is composed of a thin layer of bone, and that a fine and sharp trochar, passed into the inferior meatus well up under the inferior turbinal bone, and directed outward and upward, will enter the antrum at its lower portion, and furnish a most simple and reliable method of puncturing the sinus to determine the presence or absence of pus therein, and to introduce appropriate medication in the treatment of the same.

In discussing the etiology of sinus inflammation if we bear in mind the anatomical conditions present within the nasal cavities, we will readily appreciate the importance which any abnormality of these structures, either acute or chronic, may have as a factor in sinus involvement, and remembering the relationship of the middle turbinal bone to the natural openings from the maxillary and frontal sinuses and anterior ethmoidal cells, it is rather a matter of surprise that a marked hypertrophy of this structure, with its encroachment upon the infundibulum and its interference with drainage, should not more often give rise to an involvement of the adjacent cavities.

As the mucous membrane of these sinuses is continuous with that lining the nasal cavities, an acute or chronic inflammatory condition of the latter may, by direct extension, involve the former, giving rise to a similar condition within them and if this is followed by the entrance of pathogenic organisms we shall have an empyema present with its attendant train of symptoms. I would call attention, in this connection, to a catarrhal inflammation of these sinuses, similar in its etiology to a catarrhal inflammation of the middle ear following a closure of the Eustachian tube, in which the orifice of the sinus becomes suddenly closed by the extension of an acute inflammatory process within the nasal passages, or by the forcible blowing of the nasal secretion into the same, giving rise to symptoms which may vary in their severity from a feeling of fullness or slight discomfort in the region of the sinus, to one of most intense pain, sometimes simulating in its character a sudden and severe attack of facial neuralgia.

This form of sinus inflammation may be either acute or subacute. As the acute form, which

frequently complicates an acute coryza, is due to an extension of the catarrhal inflammation to the sinus opening causing a sudden closure of the same, it may occur in connection with any of the accessory sinuses, and is usually immediately relieved by restoring communication with the affected cavity. In the subacute form we may have the same general causative factors present, but the sinus obstruction is probably not so sudden and complete.

It will usually be found in both the acute and subacute forms that there is some predisposing cause present within the nasal passages, such as an hypertrophied middle turbinal, a deviated septum, etc.; and our treatment, after the relief of the immediate distressing symptoms, should be directed toward the correction of such predisposing factors.

In considering the etiology, as well as the differential diagnosis of the suppurative inflammations of these sinuses, we should remember that an empyema of the maxillary sinus may be due to the entrance into the antrum of a purulent discharge from the frontal sinus or anterior ethmoidal cells, or, vice versa, the maxillary empyema may give rise to a secondary empyema of the frontal or ethmoidal.

The relation of the acute infectious diseases to sinusitis is of great importance, and in this connection we may consider two classes of cases: First, those in which there is an actual local involvement, as la grippe, pharyngitis, tonsillitis, erysipelas, measles, scarlet fever, etc.; and, secondly, that class of cases in which the seat of disease is in some other portion of the body, but in which the normal vitality and resistance of all tissues is so lowered that infection may more readily occur.

The galvanocautery and intranasal operations may be followed by sinus involvement, especially if the patient is not instructed in the proper method of blowing the nose, as the discharge which follows an intranasal operation or the use of the cautery, might be forced into the neighboring cavities by a too forcible blowing of the nose, especially if accompanied by a closure of the nostrils.

Among the intranasal abnormalities which may act as a predisposing cause, we find the presence of a deviated septum, spurs, hypertrophied turbinals, especially the middle turbinate, polypi, tumors, hypertrophic, purulent and atrophic rhinitis, and foreign bodies, and among the constitutional diseases we find syphilis and tuberculosis frequently responsible for a chronic sinusitis attended by necrosis.

In the etiology of maxillary sinusitis a factor of the greatest importance is the presence of one or more diseased teeth in the upper jaw of the corresponding side; and it should be remembered that it is not essential that there should be an abscess at the root of the offending tooth, or that the tooth root should actually penetrate the floor of the antrum, in order to give rise to a maxillary empyema, but the fact should be recognized that teeth with diseased crowns, but perfectly sound roots, may be responsible for the sinusitis, and it should also be remembered that any diseased tooth from the last molar to the central incisor may be the guilty one. I am not prepared to furnish a series of cases extensive enough to furnish any reliable statistics as to the relative importance of dental as compared with intranasal disease as a source of origin of antral inflammation, but I am inclined to believe that the proportion of cases of dental origin has been overestimated. The statistics of different writers of experience have varied on this subject. Grünwald of Munich states that out of a series of 98 cases he could positively trace a dental origin in 14 per cent, while other observers of large experience have found a much higher percentage. The etiology of suppurative inflammation of the frontal sinus and anterior ethmoidal cells is, in a vast majority of cases, of intranasal origin, and chief among the predisposing causes we find hypertrophied middle turbinals, obstructing the natural openings from these cavities, the presence of a deviated septum in the region of the middle meatus, and the presence of intranasal growths, especially polypi, springing from the middle turbinal. The influence of general and local infectious diseases is of the greatest importance as an exciting cause in the involvement of these sinuses, and many of these cases, acute and chronic, will date their origin to an attack of la grippe or a severe coryza.

In determining the presence or absence of pus within the sinus adjacent to the nasal passages the diagnosis is usually made without difficulty,

but we should always bear in mind the fact that two or more sinuses may be involved, and it is in these cases that our task is not always a simple one.

The symptoms usually present in an acute empyema of the antrum are so well known as to need but slight mention, and yet I have noted a number of cases of acute empyema of this cavity where there was an absence of any marked subjective symptoms and an absence of pus within the nasal cavities, but on entering the sinus with a fine trochar, from the inferior meatus of the nose, I have found the cavity to be well filled with a purulent discharge. The history or presence of pain or tenderness over the region of the sinus, the presence of pain or tenderness in an upper tooth, on the corresponding side, the presence of pus in the middle meatus of the nose, on that side, and the absence of light over the antrum by transillumination will usually establish a probable diagnosis of antral involvement, but the simplest and most positive evidence of pus within the cavity is obtained by puncture of the inner antral wall by means of a small curved trochar passed upwards and outwards from beneath the inferior turbinal. This is a very simple procedure, is not attended by much pain, when the tissues have been shrunken by adrenalin and thoroughly cocainized, is not attended by any amount of hemorrhage, and affords an absolute means of diagnosis. The instrument which I prefer for this purpose is the Myles curved trochar and canula. After the introduction of this instrument the trochar is withdrawn, leaving the canula in place, when, if pus is present, it will be seen escaping from the end of the canula, to which a syringe may then be attached, and the cavity gently irrigated, the solution, and pus if present, passing through the osteum maxillare into the nose. This little operation requires but a few minutes of time, is attended by very little discomfort to the patient, is absolutely diagnostic, and should be employed in all cases of suspected antral suppuration.

Transillumination of the antrum by means of the Escat lamp, which is applied to the retromaxillary fossa on the inner side of the cheek, or by the introduction into the mouth of a tongue-depressor to which is attached an electric lamp, is of value as confirmatory evidence. If an illuminated spot is seen over the antrum, brightest at the infra-orbital margin where the bone is thinnest, and if it compares favorably in degree of illumination with the opposite antrum, it may be taken as evidence of the fact that pus is not present within the cavity; but if there is a diminution or absence of light on that side we should remember that other conditions than the presence of pus may be responsible for the diminished illumination, such as the absence of a sinus on that side, or the floor of one sinus may be lower than the other, or the sinus may be filled with an exostosis, or the bony anterior wall of one sinus may be thicker than the other. Moreover, it has been demonstrated that during the later stages of an acute coryza it frequently happens that one or more of the accessory sinuses will appear dark on transillumination.

The presence of pus high up in the middle meatus, in the region of the infundibulum, and spreading over the anterior end of the middle turbinal, is evidence of the fact that one or more of the anterior group of sinuses is the seat of a suppurative inflammation. After removing all purulent discharge from the nasal passages its reappearance in the region of the middle turbinate will be favored by bending the head forwards and downwards to the knees, if the source of the discharge is from the maxillary sinus, while the upright position will favor a discharge from the frontal and anterior ethmoidal, and the discharge will be most abundant during the first few hours after the patient arises in the morning, and appears high up in the anterior part of the middle meatus flowing forward and outward. The discharge from a sphenoidal and posterior ethmoidal abscess will be seen by posterior rhinoscopy flowing down over the posterior ends of the superior and middle turbinates, and discharges into the nasopharynx.

The use of the probe is also of value in locating the particular sinus from which a discharge issues, but it is not always easy to pass a probe into the frontonasal canal, especially in the presence of any hypertrophy or obstruction, and it will sometimes be necessary to remove a portion of the middle turbinal bone before we are able to accomplish this. In antral inflammation the pain is usually located beneath the orbit, over the antrum and down toward the teeth. It may

be dull and boring or neuralgic in character, and its intensity is extremely variable. In anterior ethmoidal disease the pain is likely to be frontal or at the bridge of the nose or behind the eyeball. In involvement of the frontal sinus the pain is usually supra-orbital or back of the eyeball. It is more severe in the mornings, and there is apt to be tenderness on pressure or percussion at the inner end of the supra-orbital ridge; with a sphenoidal abscess the pain is usually deep-seated, and severe in the median line, between the eyebrows; it is very frequently present in the occipital region and at the top of the head, and occasionally a very severe pain is present in the roof of the mouth.

In empyemas of the frontal sinus the symptoms vary greatly. In those acute empyemas where we have severe pain in the supra-orbital region and back of the eyeball, with redness, swelling, and tenderness of the soft tissues overlying the sinus, or a bulging at the inner angle of the orbit, and displacement of the eyeball downwards and outwards, the diagnosis is at once manifest; but in those more or less obscure cases unattended by any marked subjective symptoms our main reliance must be placed upon the location of the purulent discharge within the nose. In suppurative inflammation of the ethmoid cells a point of diagnostic importance is the frequent presence of an enlarged, soggy, or edematous middle turbinate, either with or without the presence of pus, while the presence of granulations, associated with disease of the maxillary or frontal sinus, is more likely to be confined to the region of the infundibulum.

In cases of suspected frontal empyema we may gain valuable information by transillumination. For this purpose a small electric lamp enclosed in a metal cylinder may be used, and the instrument applied to the supra-orbital ridge. The light is transmitted through the soft tissue and bony anterior walls of the sinus, and in the presence of pus within the cavity there will be an absence or a diminution of the translucency as compared with the opposite side, but it should be remembered that this test is subject to the same sources of error as transillumination of the maxillary sinus.

The treatment of acute inflammations of the nasal accessory sinuses, while varying in detail according to the particular cavity involved, is governed by the same indications which obtain in the presence of pus in other closed cavities of the body; namely, the evacuation of the pus, the providing of thorough and efficient drainage for the same, the proper cleansing of the abscess cavity, and attention to the general health of the patient.

In the presence of an acute emypema of the maxillary sinus there are three methods by which we may enter the cavity; first, through the inferior meatus of the nose; second, through the canine fossa; and, third, through the alveolar process after the extraction of a bicuspid or a first or second molar tooth. In draining through the inferior meatus it is necessary to make a large opening, as the soft tissues in this region have a tendency to close rapidly, and it is impracticable to insert a drainage-tube. Moreover, a drainage tube does not drain the cavity from its lowest portion, the large opening exposes the antral cavity to reinfection from the nasal discharge, and it is difficult for the patient himself to irrigate the sinus. If we choose the route through the canine fossa we have the advantage of avoiding the sacrifice of a tooth, provided the source of the trouble is not of dental origin. On the other hand, we do not drain the sinus from its most dependent portion, and the constant presence of a tube, of sufficiently large size to allow of thorough drainage and irrigation, is extremely liable to give rise to an irritation of the mucous membrane of the cheek and gums, which, in addition to the discomfort that it causes the patient, is liable, in the presence of the purulent discharge, to result in ulceration, and this in turn may be a source of reinfection of the antrum.

In those cases of antral suppuration which are of dental origin it is not a question of choice as to the method of entering the cavity, as the offending tooth should be extracted, but in that class of cases not dependent upon a diseased tooth, I believe that, as a general rule, our method of entering the sinus should be through the alveolar process, and that the advantages to be gained by this method will more than compensate for the loss of a sound tooth. In gaining access to the antrum by this route we enter it at its lowest part, which favors a more con-

tinuous drainage; it enables the patient to more thoroughly and easily irrigate the sinus; the prolonged wearing of a tube is attended by less discomfort to the patient; the tube can be removed daily, and the walls of the canal properly cleansed by the patient himself; and as the opening of the tube can be easily closed by a plug while the patient is eating, it is attended by less danger of infection.

The only disadvantages connected with this method of entering the antrum is the sacrifice, in some cases, of a sound tooth, but during the time in which the tube remains in the opening to the cavity a plug can be inserted allowing the patient the use of that side of the jaw in the mastication of food, and, when the opening has become permanently closed, the dental surgeon can so perfectly replace the natural tooth, by means of bridge work and a crown, that the artificial tooth is as satisfactory to the patient as the natural one.

In establishing a communication with the antrum through the alveolar process, the opening can easily and quickly be made by the dental surgeon immediately after the extraction of the tooth, and for this purpose the hollow trephine should be used, corresponding in size to the tube to be inserted; and I would emphasize the necessity of making this opening sufficiently large to admit a tube the lumen of which is at least 5 mm. in diameter, as a tube of small size is exceedingly liable to become clogged by the thickened pus and shreds of mucus, and to interfere with free drainage. In selecting a tube of proper length it should be remembered that the upper end of the tube should not project above the floor of the antrum, as by so doing it will interfere with thorough drainage. A very simple method of determining the proper length is to pass up into the antrum a probe bent at the end at a right angle, and then withdraw it until the end catches on the floor of the sinus. In this way the distance to the alveolar margin can be marked and measured. The lower end of the tube should be provided with a suitable flange to prevent its becoming forced up into the sinus. These tubes can be easily and quickly rolled from a thin plate of aluminum, platinum, or silver. In the after-treatment of these cases the tube should be removed daily, the walls of the opening carefully cleaned with cotton, and the tube replaced. The lower end of the tube should also be closed by means of a small cork or plug during meals to prevent the entrance of food.

Attention should now be directed to the conditions present within the nose, and any interference with intranasal drainage from the sinus should be removed as thoroughly as possible, which may necessitate the use of the snare, forceps, scissors, or other suitable instruments for the removal of whatever obstruction may be present, especially in the region of the middle meatus.

The after-treatment consists in the proper cleansing of the sinus by means of antiseptic solutions, the frequency of the irrigations depending upon the rapidity with which the pus accumulates, and the choice of the antiseptic solution depending upon each individual case. As a general rule, a mild antiseptic solution, such as a saturated solution of boric acid, is preferable, the stronger antiseptics giving rise to considerable irritation of the antral and nasal mucous membranes.

The proper medication of the sinus cavity should be made at appropriate intervals by the introduction directly into the antrum of whatever antiseptic the surgeon may choose. The use, however, of strong, irritating drugs should be avoided, and in the experience of the writer the best results have been obtained by the use of a 20-per-cent solution of argyrol sprayed directly against the walls of the sinus. This may be easily done by having a long metal tip, bent at a right angle, which can be attached directly to the atomizer and passed up into the cavity. By this method all parts of the lining membrane of the antrum can be thoroughly medicated.

I would add here a word of warning against the use of hydrogen dioxid within such a closed cavity as we are here dealing with, as in the presence of pus the disintegration of this solution is accompanied by the liberation of oxygen gas, which, in the presence of any obstruction to exceedingly free drainage, might be followed by the spreading of the infection to other parts. This is particularly liable to happen if the solution passes out through the natural opening into the middle meatus, where it may carry the infection upwards in the infundibulum and infect the adjacent sinuses.

The question might here be asked how long we should allow the tube to remain, and how long the irrigations should be continued? The irrigations should be continued as long as pus forms within the sinus, or until such indications are present as will make it advisable to resort to a radical operation for the relief of the suppurative condition. When all purulent discharge has ceased, the irrigations should be stopped for a period of a week, during which time the tube should be kept plugged; and if at the end of that time irrigation fails to reveal the presence of any pus, the tube may be removed, and the opening allowed to close. This usually takes place rapidly, especially after the walls of the opening have been curetted. During this period of closure the walls of the cavity should be kept carefully cleansed, and a gauze drain inserted.

It is hardly necessary to remind you that attention to the general health of the patient is of great importance in the treatment of all sinus involvements; and, in connection with the regulation of the diet and habits of the patient, I would particularly call attention to the advisability of proscribing any indulgence in the use of liquor, as I have repeatedly observed bad effects following the use of alcoholic drinks, and this is particularly true during the later stages of the disease when the discharge has almost ceased.

Simple acute ethmoiditis occurs very frequently during the course of an acute or chronic rhinitis, and is very commonly observed during grip epidemics. It generally subsides quickly with the use of cleansing solutions, and the removal of obstructions to drainage. When, however, pus has gained access to these cells, the condition may become a chronic one, and is sometimes exceedingly difficult to conquer. The treatment in these cases will consist in providing free drainage by the removal of all sources of obstruction, including the anterior portion of the middle turbinate bone. This can best be accomplished by means of the snare, scissors, and forceps, or in some cases by the use of the electric drill. If this is not followed by a cessation of the discharge the intracellular structures should be thoroughly curetted.

In an involvement of the frontal sinus we may have a simple, acute, or subacute catarrhal inflammation of that cavity, due to an extension of an acute inflammatory process from the nose by way of the infundibulum and nasofrontal duct. In these cases the use of astringents, cleansing solutions, and the removal of any source of obstruction in the region of the infundibulum, may be followed by relief, but when pus has once gained access to the frontal sinus the treatment will be surgical, and in the presence of an acute empyema of the frontal sinus with obstruction to the escape of the inflammatory products through the nasofrontal duct, the indications for surgical interference are urgent, and to delay operation will subject the patient to danger of intracranial complications.

The methods of operating for frontal empyema may be classed as intranasal and extranasal, but since the former is so unsatisfactory in its results, and, moreover, is attended by so much danger to the patient, and since the latter is so satisfactory, I shall confine my remarks entirely to the extranasal method of operating.

The preferable method of entering the frontal sinus and securing free drainage, in either an acute or chronic empyema of this cavity, is by the so-called "Ogston-Luc operation," a method first devised by Ogston of England, in 1884, and later, in 1896, by Luc of Paris. This method of operating differs from other radical operations on the frontal sinus in that the external wound is closed immediately with sutures, and a free communication made with the nasal passages, through the nasofrontal canal, for the thorough drainage of the purulent discharge. The principal advantage to be gained by this method of operating is the avoidance of the disfigurement which follows the open method of operating and draining externally. The technique of the operation is as follows: The eyebrow is shaved, and an incision made along the inner third of the orbital arch and carried down through the periosteum; the soft tissues and periosteum are then separated from the bone, and held apart by means of retractors; the sinus is entered through the overlying bony wall with the angular gouge and mallet, and the opening enlarged to the desired extent with the bone forceps, and the cavity thoroughly cleansed. It is

here only that the operation for an acute and chronic empyema differs: in the presence of an acute suppurative inflammation it is unnecessary to curette the lining membrane, while in operating for the relief of a chronic empyema it is necessary to remove thoroughly all granulations and diseased mucous membrane.

The cavity having been cleansed, the opening of the nasofrontal canal is enlarged with the curette, and a drainage tube is passed through it into the nostril. This is best accomplished by first passing a flexible probe to which is attached a suture, and the end of the suture tied to a rubber drainage tube. In this way the tube can be drawn through the canal and nostril until the upper end of the tube rests at the upper extremity of the nasofrontal canal and the lower end at the opening of the nostril. The interior of the sinus is then thoroughly cleansed with an antiseptic solution, the lining membrane swabbed with a ten-per-cent solution of silver nitrate, the periosteum and soft tissues closed with a row of interrupted sutures, and a bandage applied.

Healing generally occurs quickly and by first intention, and in the absence of a rise in temperature or other indication for a change in dressings, the bandage should be left in place for four or five days, and during this time the sinus should not be irrigated through the tube, as the forcing of any solution up into the cavity might be the means of infecting the external wound. The patient should also be instructed not to blow the nose forcibly, for by so doing air might be forced up into the sinus, and tear open the wound.

The length of time that the tube should be left in place will depend upon the amount and duration of the discharge, but as a general rule it should remain in position for seven or eight days.

The results of this operation are usually satisfactory, and the remaining scar becomes so covered by a re-growth of the eyebrow that it is not visible,—a point of great importance in surgery on exposed portions of the body where a good cosmetic result is so much to be desired.

HOSPITAL BULLETIN

IN PRIVATE PRACTICE

A CASE OF ERYSIPELAS TREATED WITH SERUM

By Carl J. Holman, M. D.

MANKATO

L. W., aged 34, graduate nurse from State Hospital at St. Peter, now U. S. mail messenger. He is a married man and the father of a robust little girl of two years of age.

He was seen first March 3, 1905. There had been a history of exposure to cold, as he had been sleeping in a mail-car. The patient had sent word that he thought that he had pneumonia, and, indeed, I found him with a temperature of 105°, pulse 110, respiration 26. He had had a chill the day before. His tongue was heavily coated, and his breath was very offensive. There had been oppression over the epigastrium, and nausea, some backache, muscle ache, and general bad feeling. Over the left malar prominence there was a wedge-shaped area, the apex of which extended toward the inner canthus. It was smooth, of a reddish-dusky hue, becoming white on pressure, but rapidly resuming the bright-red color. There was some glandular enlargement in the region of the left ear. He was a fairly well nourished man, with no history of any constitutional disorder, though there had been a slight attack of erysipelas some years ago.

There was no external evidence of any ear trouble, but there was pus in the left eye, and there was a rhinitis. The uranalysis showed absence of albumin and sugar.

It was unmistakably a case of erysipelas, and I suggested the serum treatment, but during his training as a nurse he had seen many cases of erysipelas in the patients at the hospital, and he thought that he would do nicely without the serum. He was put on tinct. iron, 30 minimums every two hours, some mild alcoholic stim-

ulants, salines to increase the elimination, sponge bathing for the temperature, and compresses of saturated boric solution over the involved area. The margins were painted with collodion with the possibility of limiting the spread of the infection.

The next day the redness extended over the face, involving the nose and the region around the eye, and showed signs of extending upward over the scalp. The lotion was changed to a solution of the hyposulphite of sodium, but the following day the redness and swelling had extended over the scalp and both occipital regions. There was general enlargement of all of the superficial cervical glands. The condition remained practically unchanged during my observation of thirteen days. There was continually present a temperature of from 102.5° to 105°, and the pulse ranged from 90 to 120. He was given the usual supportive treatment, all the food he would take, strychnine, codeine for the pain and restlessness. Much of the time he was delirious.

On the fifteenth day of his illness I found him with a temperature of 105°; pulse, 110; respiration, 28; and feeling very badly. I proposed that we use the antistreptococcic serum, to which he readily consented. Ten cc. was given at 5 p. m. in the abdominal muscles. I saw him four hours later, and found him with a pulse of about 80, temperature, 99.5°, respiration 20; had been profuse perspiration, and he had been somewhat delirious. I repeated the injection of 10 cc., and found him the next morning about 8:30 with a pulse of 72, temperature 98.6°, respiration 16, and he had perspired freely. For his restlessness he had had ¼ gr. codeine, which had resulted in some sleep. There was an erythematous rash all over the body, which disappeared in about twenty-four hours. He was given a third and last injection of 10 cc. of serum at that time. When he was seen that evening his pulse, temperature and respiration were normal. He was taking nourishment readily and was feeling somewhat better.

When seen four days later the edema of the eyelids, face and scalp had disappeared, the glandular enlargement had almost entirely gone, the tongue was clean, the pulse, temperature and respiration were normal; the bowels were moving naturally; and he seemed to be completely convalescent. There was peeling of the skin and a profuse falling of the hair.

CARDIOSPASM

By H. L. Staples, M. D.

MINNEAPOLIS

Mr. W——, aged 63, consulted me in August, 1904, on account of progressive loss of flesh and strength, also pain in the midsternal region after the deglutition of food. Occasionally there was a slight regurgitation of the ingesta. On examination, the stomach tube encountered resistance sixteen inches from the incisor teeth and passed into the stomach with great difficulty. A trace of blood was observed on the tube and in the stomach contents. The HCl markedly diminished. The second deglutition sound was lacking. One month later the tube encountered a greater impediment, and the HCl was absent.

I diagnosed cancer of the cardia, and so informed his friends. He then consulted a gastric specialist in Chicago, who, after a careful examination, termed the condition chronic cardiospasm to the probable exclusion of carcinoma. The loss of flesh and strength continued, deglutition became more painful, and regurgitation more frequent. Deposits appeared in the inguinal region and the umbilicus, the linea alba hardened, a supraclavicular gland enlarged, and finally a tumor became palpable in the epigastric region, the man dying in February.

This may be termed a case of cardiospasm associated with cancer as described by Von Miculicz.

The treatment of such a condition is extremely unsatisfactory, excision not being feasible on account of the esophageal involvement. Careful rectal alimentation was the only final resource, as he was unable to swallow even water for the last two weeks. Gastrostomy was objected to, and would have afforded but slight relief had it been permitted.

HYSTERICAL AMBLYOPIA*

By W. B. Pineo, M. D.

MINNEAPOLIS

M. Parinaud, of Paris, considers the ocular disorders of hysteria under two heads:

1. Those that affect the apparatus of special sense.

2. Those that concern the ocular muscles.

The first of these he entitles "hysterical amblyopia"; the second "affections of the motor apparatus of the eyes."

The case in hand comes under the head of "hysterical amblyopia" described by Von Graefe under the name of "True Anesthesia of the Retina," and by Schweigger under that of "Amblyopia of the Visual Field."

I report this case because such cases are rare and of interest to oculists, but more particularly because general practitioners with a knowledge of these ocular symptoms may clear up an otherwise doubtful diagnosis of hysteria.

Hattie Gardner, aged 16, referred to me by Dr. Rochford, was given the following prescription for glasses about six years ago: O. D. 15.75 D. Spher.; O. S. the same.

These glasses were never satisfactory, and in September, 1904, her brother-in-law, a physician, put atropin into her eyes in order that a local optician might try to improve her glasses. She had violent symptoms of atropin poisoning, such as thirst, dryness, flushing, rapid pulse, and hurried breathing.

I consider the toxic influence of the atropin at that time as the immediate cause of the hysteria, and the constant nagging of the nervous system by the uncorrected error of refraction as a predisposing cause. However, from then until December 1st she was not able to read a word at close range. At that time I found her total amount of error of refraction under homatropin to be O. D. +5.50 D. spher. = + 1 D. Cly. Ax. 90; O. S. +6.50 D. spher. +.50 D. Cly. Ax. 90.

While the glasses she had been wearing gave her some relief, it is readily seen that her hypermetropia was over-corrected in the right eye and that an astigmatism of 1 D. in the right eye and .50 D. in the left had been entirely ignored, or carelessly overlooked.

Her vision for distance was O. D. 20-70, O. S. 20-100; after changing her glasses it was O. D. 20-30; O. S. 20-40, which no doubt will improve. She also had an esophoria of 6°, and a left hyperphoria of 1.5°, which disappeared after her glasses were changed. For all her vision had been made nearly normal for distance, she could not read a word of ordinary print.

This disparity between distant and near vision made me suspect hysteria, and my suspicion was confirmed by the perimeter, although her near vision was so impaired that it took several sittings to obtain anything reliable.

I found marked concentric contraction of the field of vision, which condition is usually accompanied by similar contraction for colors. This case, however, presented an exception to the rule by the fact that the field for white was more restricted than for certain colors. This condition is considered one of the most curious manifestations of hysterical amblyopia.

Another point to be considered here is that the field for blue was more contracted than that for red. This is the more remarkable, for it is a well known fact that the field for red disappears first in alcoholic and tabetic amblyopia. This contraction and reversal of the fields for white and colors is considered pathognomonic of hysteria, for in every other disease where peripheral limitations of the visual field occur the color field is affected in greater proportion than the field for white. It cannot be similated and is caused by no other ocular disorder. Sometimes this anesthesia of the visual field becomes complete, and the patient is as blind as a person in the last stage of optic atrophy.

A peculiar feature of this condition of amaurosis is that the pupillary reaction is normal, which occurs in no other kind of total blindness. This case also had hysterical spasm of the muscle of accommodation, a condition which always accompanies hysterical amblyopia, and from which results two other symptoms,—monocular polyopia and micromegalopsia.

In complete spasm of the accommodation, the focus of the eye is at a fixed point. An object, a match for instance, held between the focal point and the eye, or beyond the focal point, appears

*Read before the Hennepin County Medical Society, March 6, 1905.

double, or many, as the case may be, probably because the object is reflected upon the retina by the different segments of the crystaline lens. Hence the term monocular diplopia or polyopia.

Micromegalopsia, due also to spasm of the muscle of accommodation, is a condition whereby the faculty of estimating the size of an object is impaired. A match held near the eye appears to become smaller when gradually moved away. This symptom is almost constant in hysterical amblyopia, and was present in this case.

Casey Wood and Thos. Woodruff, in their delightful little book, "The Common Diseases of the Eye," say: "The ocular signs of this affection are probably the most constant, the most easily detected, and the most conclusive signs of 'petite' and 'grande' hysteria, and that probably the most important hysterical eye sign is the peculiar ciliary spasm."

The treatment in this case consisted of the proper fitting of glasses, with homatropin, and the suggestion that she would be able to read smaller print in the newspaper from day to day, and that she start in with the head lines and read as far as she could several times during the day. She improved slowly, and on the fifth day after being fitted to glasses read ordinary newspaper print and resumed practice on her piano.

She has had no relapse.

ST. BARNABAS HOSPITAL

MINNEAPOLIS

CARCINOMA OF THE COLON

In the Service of Dr. G. G. Eitel

Mr. M——, aged 35, entered the hospital March 23d. On the 17th of last January he had first noticed a small mass a little to the left and below the umbilicus. He had suffered no pain nor inconvenience whatever. In the last week of February he passed considerable blood from his bowels, and he noticed that he was rapidly losing weight. The tumor grew steadily in size, and he at last consented to an operation.

The diagnosis of cancer or ulcer in the upper part of the descending colon was made.

At operation a well developed carcinoma at the site suspected was found, the growth completely surrounding the colon and very considerably narrowing the lumen. A resection of the colon was made, removing about eight inches of the gut. After this the ends were united by means of a large sized Murphy button.

The patient has thus far made a splendid recovery.

CRIMINAL RESPONSIBILITY OF INEBRIATES

T. D. Crothers, Hartford, Conn., concludes from his studies on the subject that alcohol produces changes in the brain and nervous system, impairing responsibility, and that the state in considering them sound and responsible fails in its object to prevent crime and to protect society through the law. Statistics and experience prove, he holds, that the fear of punishment fails to affect these cases. The death penalty should never be inflicted on inebriates for crime committed under the influence of alcohol. Capital punishment, in such cases, favors a contagion of crime in other persons similarly affected. The excessive use of alcohol should be accepted, he maintains, as evidence of mental impairment and of inability to control conduct. Crothers states that physicians who are called on to give evidence regarding the sanity and responsibility of inebriates should be governed by the facts of the neurotic heredity and by the liquor and drug history.—Journal of A. M. A.

OLIVE OIL AS A THERAPEUTIC AGENT

There are few agents in the materia medica to which less space is usually given in the textbooks than olive oil, a few lines being considered sufficient to mention that it has nutritive qualities of importance, and that it may be substituted for cod liver oil. During the last few years, however, observers in Germany and America have drawn attention to the high value of this drug in very varying conditions of disorder in the stomach and intestines. In chronic dysentery, excellent results have followed the continued use of olive oil given in large quantities. Very little objection is made to the taste of the oil, and after a short time patients develop a liking for it. In the very different conditions of gastric ulcer, Cohnheim has long relied on olive oil as an adjunct in treatment. He believes that it relieves pain, lubricates surfaces of ulcers or fissures, reduces hyperacidity, and acts as an easily digested food. In employing olive oil one should take precautions to make sure that the oil is pure, as in commerce it is commonly adulterated to a large extent with cottonseed oil.

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THE FIGHT AGAINST TUBERCULOSIS

The antituberculosis war is raging, and the desire to prevent the disease is attracting attention all over the country. Minneapolis is doing her share through the antituberculosis department of the Associated Charities. The publicity department has been allotted space in all of the daily papers, and articles are presented in a short and interesting manner to attract attention. A campaign of education has been established all over the city, lectures, notices by the clergy, and circulars being the means of education. Thirty thousand circulars are being distributed by mail. These circulars contain simple direct statements with a few suggestions as to the prevention of tuberculosis. Colors are employed to attract the reader, and his co-operation is kindly urged.

The actual care of the tubercular cases is done by nurses employed by the Associated Charities, and physicians are in readiness at any time. Of course the whole effort is to educate the people, in order that they may understand the necessity of prevention of the disease. It is appalling to note the ignorance and filthiness of the consumptive, but it is gratifying to know that suggestions are adopted as well as respected. The work of the Associated Charities through its various operators and its committees will surely accomplish wonders.

The campaign of education is not solely among the poor. The better and richer classes need instruction as well. The latter are called upon to aid the committees by their financial support. As yet no vast amount of enthusiasm has been encountered, but the rich will be gradually educated in giving, and eventually we may have a farm or a sanatorium for consumptives.

The general committee meets once a month, and the various needs are discussed. The subcommittees meet weekly, and carry on the work. The nurses' committee, composed of women, is active and energetic, the "gospel of prevention" is gaining converts, and results are already reported.

If you, kind reader, will do your share in educating your patients to spit only in proper receptacles, and urge some of your friends to contribute money for necessities, you will also be enrolled on the great committee.

THE ANNUAL MEETING OF THE HENNEPIN COUNTY MEDICAL SOCIETY

Dr. J. Clarence Webster, of Chicago, will deliver the address at the annual meeting of the Hennepin County Society on the evening of May 1st.

His subject will be "Pelvic Disturbances as a Factor in Reflex Disorders," and will be ably handled, as Dr. Webster is professor of gynecology at Rush Medical College.

The meeting will take place, as usual, in the large dining-room of the West Hotel, as it is the only room large enough to properly accommodate the annual meeting. A banquet will precede the address, and a smoker will follow. The mayor and others will attempt to speak, if time permits.

The annual meeting is always enjoyable, for it brings out the full force of the society, and renews acquaintances and promotes good fellowship.

Applications for tickets may be made to the secretary, Dr. F. A. Knights, at his office in the Masonic Temple.

Every member is urged to communicate with the secretary as early as possible, in order that the committee may know how many to expect and provide for.

THE PORTLAND MEETING OF THE A. M. A.

The meeting of the American Medical Association in Portland, Oregon, July 10th to 14th, promises well. The month is an ideal time for a vacation, and the trip will be an education for many who have never been into the great mountain regions. The Northern Pacific Railway offers an unusually attractive program, and its train service is incomparable. For a very modest sum the medical man will be carried on a special train to Livingston, Mont., and from there he may go through the Yellowstone Park, one of the two wonders of America. The trip through the Park will last five and one-half days, thus assuring sufficient time to see all of the wonders of that most wonderful region.

The train service is prompt, and, with the break at Livingston, the trip to Portland will not seem long. Stops of a few hours will be made at Spokane, Seattle, and Tacoma, thus breaking the journey in pleasant sections at pleasing places.

The program at Portland will be an interesting one, and the Easterner and Middle-West man will have an opportunity to meet his Western brother. Incidentally you may acquire a farm somewhere in the West, to which you may retire after active practice becomes a burden. To one who has never been in the far West, the opportunity is great; to those who have been there, this opportunity presents many attractions. It would seem best, under the circumstances, to write ahead and secure rooms for the week of July 10th.

EPIDEMIC OF CEREBROSPINAL MENINGITIS

The present epidemic of spotted fever in various parts of the country emphasizes the uncertainty of the virulence of any infectious disease. The past history of smallpox demonstrates how epidemics may be mild for a time,—for years perhaps,—and then assume a more active type with a high grade of mortality.

To the unread it would seem as if the epidemic of cerebrospinal meningitis had suddenly broken out, but as a matter of fact the disease is only more virulent than usual. This may depend upon various causes, such as favorable means of spreading infection, bad hygienic surroundings, the influence of the seasons, and the activities of microbic diseases in general. The past year, like the year of 1892, has shown that certain diseases are more prevalent than usual, and is a strong argument in favor of being constantly prepared to combat epidemics of any kind.

In Prussia the epidemic is raging in various districts. In the Oppeln district 1,200 cases have occurred with about 50 per cent of fatalities. In some parts of Prussia it has been necessary to close the schools until the danger point of spreading is past.

New York City reports an unusually large number of cases, with many deaths. A few cases have appeared in Chicago, and a few also in the Mescalero Indian Reservation in New Mexico. The New York epidemic is under close observation, and every effort is being made to ascertain the means of transmission, and its prevention. A special commission has been appointed, and doubtless much valuable and reliable information will be obtained. Fulminant and apoplectiform cases have occurred in sufficient numbers to arouse the profession. The exciting agent is believed to be the meningo coccus intracellularis, discovered by Weichselbaum, in 1887, although the pneumococcus and streptococcus are found in some epidemics. In an epidemic that prevailed in Massachusetts in 1897, and which was reported by Councilman, Mallory, and Wright, the diplococcus intracellularis meningitidis was found to be the only cause. This confirms the findings of Weichselbaum, and particularly the work of Jäger, who first recognised this organism in an epidemic in Stuttgart.

Lumbar puncture seems to be the most satisfactory method of diagnosis aside from the clinical symptoms of meningitis. The mode of infection is still undetermined, but from recent accounts of cases in which physicians have become infected it is supposed that the infection gains an entrance through the nasal cavities, and their blood vessels and lymphatics, and thus are carried into the blood stream. Other diseases, however, may contribute in various ways, and it is probably from the distances between towns and cities that the infection may be carried by the air, personal contact, or by inanimate objects.

So far no reliable means of prevention other than strict segregation of cases has been discovered. Separation, isolation and fumigation are necessary, particularly as the epidemics occur in cold weather when people are more or less crowded together without sufficient fresh air and sunshine. The treatment of such epidemics is by stamping out the cases. A large number of deaths occur under the best form of treatment, hence many must be sacrificed by isolation to benefit the majority. The use of diphtheria antitoxin, from which so much was expected, has proven worthless. One case was trephined, and lived—perhaps as other cases live—by survival of the fittest. Cases are reported relieved and cured by repeated lumbar puncture.

During the last epidemic in Boston the patients were put through a thorough sweating process, which restored consciousness. Then followed a fast of forty-eight hours, during which time nothing is drunk except cold water, weak black tea, or weak lemonade. After this comes a cathartic, probably calomel or castor oil. This line of treatment seems rational, and offers the best suggestions. Drugs are useless as a rule. Eliminate through the skin, and intestinal tract, make the patient comfortable with morphine, and relieve the intracranial pressure by lumbar punctures.

THE LATE DR. SPRING'S ELECTRICAL APPARATUS

An advertisement in this issue of THE LANCET (in the news column) calls attention to the sale of all of the electrical appliances and office outfit of the late Dr. W. P. Spring. His office was conveniently located, and any one interested in *x*-ray or electrotherapeutics or surgical work will find it an advantage to occupy the office as it now stands. Mrs. Spring is very anxious to dispose of all the office property, and will offer it for sale, either as a whole or she will dispose of the individual appliances. The price is so reasonable for the valuable books and instruments that some one will profit by it. Dr. Spring had all the new and modern methods for *x*-ray and electrotherapeutic work, as well as new devices in *x*-ray photography.

BOOK NOTICES

A TEXT-BOOK OF THE PRACTICE OF MEDICINE. For Students and Practitioners. By Hobart Amory Hare, M. D., B.Sc., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia; Physician to the Jefferson Medical College Hospital; Laureate of the Royal Academy of Medicine in Belgium and of the Medical Society of London. Author of A Text-Book of Practical Therapeutics; A Text-Book of Practical Diagnosis, etc. In one very handsome octavo volume of 1,120 pages, with 129 engravings and 10 full-page plates in colors and monochrome. Cloth, $5.00, net; leather, $6.00, net; half morocco, $6.50, net. Lea Brothers & Co., Philadelphia and New York, 1905.

Every art and science has its voluminous writers, and, as a rule, they are a dangerous lot of padders. Dr. Hare is a notable exception. He knows how to write a book, and how to edit one that is written by another man, which is a rare accomplishment. In this work Dr. Hare brings to his task the long experience of a successful teacher, and he gives us a one-volume text-book that is valuable both in and outside of the classroom. The prominence given diagnosis and treatment will also commend Dr. Hare's work, and the presence of illustrations, for illustrative, not show, purposes, adds much to the value of the work.

STUDIES IN THE PSYCHOLOGY OF SEX—Sexual Selection in Man. I, Touch. II, Smell. III, Hearing. IV, Vision. By Havelock Ellis. Pages xii-270. Extra cloth, $2.00, net. Sold only by subscription to Physicians, Lawyers, and Scientists. Philadelphia: F. A. Davis Company.

Dr. Ellis has given an immense amount of research to the work he is engaged in, and we are now informed that it will require five volumes to complete his task, although each volume is complete in itself. That such writing has great value no one will deny, and this is all the more evident when we examine the high standing of the men quoted in these volumes; yet we are inclined to believe that the greatest need is for a condensed volume containing the essential facts gathered by Dr. Ellis, with his own conclusions

as to their use by the general practitioner. He deals with phenomena that are at the basis of man's happiness, at the foundation of society, and he deals wisely, in our opinion, with the modification above made.

That he is on very dangerous ground is shown by the fact that much of the matter recently condemned with great severity by a Minnesota federal court, came from one of Dr. Ellis' books; but Dr. Ellis never departs from the scientific line far enough to be in much danger.

NEWS ITEMS

Dr. J. A. McDougal, of Pine City, has gone to Colorado to practice.

Dr. Hans Johnson, who recently began practice at Spicer, has decided to locate in Murdock.

Dr. J. W. Andrist, of Ellendale, goes to Europe to visit the hospitals and do post-graduate work.

Dr. S. Douglas, of Park River, N. D., has been appointed pension medical examiner for that county.

Dr. O. H. Bakke, of Blooming Prairie, has moved to Minneapolis. Dr. Bakke is a graduate of Hamline.

Dr. R. I. Hubert, of St. Cloud, who has been in Minneapolis for treatment, has returned to his practice.

Dr. Roy M. Riggs has decided to move from Andover, S. D. This will leave Andover without a physician.

Dr. E. E. McStay, of Waterloo, Iowa, has accepted a position with Dr. R. S. Ramsey, of Grand Forks, N. D.

Dr. Adams Lyons, a graduate of Hamline, who is practicing at Pine City, has established a hospital at that place.

Dr. L. A. Brustad, of Park River, N. D., who has been doing post-graduate work in Chicago and New Orleans, has returned.

The $20,000 addition to St. Luke's Hospital at Aberdeen, S. D., was opened last month. It doubled the capacity of the hospital.

Dr. Jacob Kussart, of Park Rapids, has purchased the West Hotel property at that place, and he will fit it up for a hospital and sanitarium.

Dr. F. H. Hacking has given up practice at Granite Falls. He will spend some time at post-graduate work in Chicago, and then settle in Vancouver, B. C.

Dr. C. H. Hunter, of Minneapolis, has moved from the Syndicate block, where he has been many years, to 519 First Ave. So., next to the Minneapolis Club.

Dr. W. H. Twiford, of Owatonna, who has been in active practice considerably over 50 years, is recovering from a severe illness that gave his friends considerable alarm.

Dr. C. Q. Scoboria, who has practiced in Minnesota since 1883, much of the time at Elk River, has decided to move to North Yakima, Wash. Dr. Scoboria is a graduate of Harvard, and is a well equipped practitioner.

At the annual meeting of the Redwood and Brown County Medical Society, held early this month at Redwood Falls, the following were elected officers for this year: President, Dr. J. L. Adams, Morgan; vice-president, Dr. J. W. Wellcome, Jr., Sleepy Eye; secretary, Dr. W. A. Brand, Redwood Falls; treasurer, Dr. J. H. Vogel, New Ulm.

The citizens of Worthington held a very enthusiastic meeting on the 31st ult., to consider the building of a hospital. A building to cost $20,000 was talked of. One of the ministers suggested that in case of a deficit in running expenses the churches might have a "Hospital Sunday" each year, and take up a collection. The plan met with much favor.

OFFICE ROOM TO RENT TO PHYSICIANS.

Some very desirable rooms are offered to Minneapolis physicians and dentists on the remodelled second floor of the building at 519 First Ave. So., next to the Minneapolis Club.

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A modern house of 11 rooms, hardwood finish, and heated with hot water, in a very desirable location for a physician, will be sold at considerably less than its value, namely, for $5,000—$2,000 cash and balance on long time. Inquire of owner on premises, 116 East 27th St., Minneapolis.

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THREE CASES OF HERNIA, ONE OF GOITRE, AND ONE OF STRICTURES AND CYSTITIS*

By F. A. Dunsmoor, M. D.

MINNEAPOLIS

We have six cases for our clinic this morning. Beginning with hernia, we have three right inguinal types in males. We shall operate on the congenital first.

Case 1.—A. W——, aged 5 years. The parents of this boy have tried to hold his hernia in place by the aid of a truss. This is sometimes quite satisfactory, particularly if the truss is made as if the hernia were double, and great care is used to see that the rupture does not get away from the pad at any time. I have seen a few cases cured in young children, by the use of the truss alone, where the pressure was sufficient to cause inflammation and closure of the canal. In this case, we have a fat, wide, and short abdomen in a robust, active child, and his truss has been of much harm and discomfort since it permits the hernial sac to be filled, and simply squeezes its contents, making it tender and sore. The child was quite ready to have the operation made, when promised freedom from the truss.

We make the usual incision of the aponeurosis of the external oblique, and the hernia appears like the traditional third testicle, while the sac, with slight traction, brings out the right testicle from the scrotum. Our chief difficulty here is separating the tunic of the testicle from that of the hernia, tying and amputating the latter, avoiding the spermatic cord and vessels, and in passing and tightening the mattress sutures. We close the internal ring completely, like the Fowler operation, pushing the thin vas and vessels back of all sutures to emerge at right angles from the external ring, now closed so as to gently constrict its contents. We use thirty-day chromatized No. 2 catgut for deep sutures, and No. 1 ten-day sterilized catgut for skin sutures. Dr. McArthur of Chicago splits a piece off each side of the aponeurotic incision for sutures, leaving one end attached above and the other below. A guiding end of silk is tied to the fore end of each tendinous living animal suture, and he is enabled to satisfactorily close the hernia, approaching from each end of the incision of the aponeurosis, without any foreign suture material.

Case 2.—J. A., aged 46, laborer, single.

This case is of interest in showing the effect of the injection cure, which he took seven years ago. The method consisted of injecting a strong astringent alcoholic solution about the sac and into the pillars of the internal ring, keeping the hernia back by a closely fitting truss to be worn day and night. The patient thinks he was cured for a time, but now cannot control the hernia by any truss he is able to wear.

On deepening the incision, we find extensive tough fibrous adhesions to the sac, making it quite difficult to separate it from the hardened internal ring. However, it is finally accomplished, and ligated high as possible, and the sac amputated. Kocher uses the ligature here to suture the stump as far in toward the median line as possible to deviate pressure from the canal. The cord may here easily be placed in either position, but I have purposely made the incision through the aponeurosis, quite half an inch above Poupart's ligament, in order to show you Andrews' method, called by his Chicago friends the "frock-coat" method. The cord and spermatic

*Abstract of a clinic given before the senior class of the State University, at the Swedish Hospital, March 4, 1905.

vessels are held out of the way, by an assistant, who suspends them by means of a narrow piece of gauze. The sutures are introduced from the outer edge of inner line of incision of the aponeurosis, directly to the Poupart's ligament, piercing the long half-inch flap, continuing down to the pubes. This leaves the half-inch margin of the aponeurosis continuous with Poupart's ligament, to be the covering for the vas and vessels by suturing the flap as far as possible over toward the linea alba. Should you prefer to drop the cord, as in the previous case, this flap would reinforce the closure made by the sutures put around the Poupart's ligament holding the obliques.

Case 3.—A. T., aged 25 years, a young man in his prime, who has had the endurance to wear the most cruel truss I ever saw, made by a compression spring holding a broad pad at the back and a small, almost perforating pad to the inguinal canal, which has not only caused adherence to its lower half, but produced a chronic appendicitis from pressure and irritation.

When we open the sac, we are enabled to remove the appendix through the internal ring, and close as in the first case, bringing the cord through the external ring.

Case 4.—Mrs. R., aged 35, has a history which leads us to diagnose gall-stone disease, not that she has jaundice, or highly colored urine, nor the agonizing colic associated with the passing of calculi through the common bile duct. She has much distress in her stomach, and refers to attacks of indigestion, belching of gas, and pressure on top of her right shoulder, with heaviness over the liver area. There is tenderness on pressure against the gall-bladder by hooked fingers under the ribs.

It is said that one woman in eight has gall-stones, but not one in twenty of these is aware of the fact. This percentage is too high in our level country, and particularly so on our broad prairies. The mountainous countries provide calculi often, not simply biliary stones, but those in the kidney or the urinary bladder. This may be verified by looking up the map when seeing a report of the prevalence of hepatic or renal diseases. One other reason why a surgeon finds and removes gall-stones, is the fact that he is looking for them. I make it a routine practice to examine the gall-bladder at each celiotomy. Many gastric symptoms depend upon the irritation from biliary calculi. I prefer the incision in the semilunaris, since no muscle is cut, and no great hemorrhage occurs. There is usually much more bleeding in cases where jaundice exists.

Beginning just at the costal margin, the incision is hardly more than an inch in length, permitting the introduction of my index or reading finger. In touching the gall-bladder, I find it distended and certainly containing stones. We lengthen the incision to two and one-half inches, pack gauze between the liver and general abdominal cavity, draw the gall-bladder through the wound, and open it parallel with skin incision. We now remove the so-called stones, but which in this case are mostly cholesterin crystals, though some are one-third of an inch in diameter. We next add further protection of the peritoneal cavity, and irrigate the gall-bladder and ducts through an irrigating curette, washing out some fine sand. We next close the bladder, and drop back without drainage.

I find there is much more discomfort when the gall-bladder is stitched to the mural wound, so that I now drain only in those cases where I fear there remains some sand, or there has been pus or an empyema, in which case I drain through the kidney pouch, when possible. The peritoneum is closed with Boeckmann gut; the fascia with No. 2 Van Horn twenty-day chromic gut; and the skin with Boeckmann gut, by the glover's suture. There are no stitches to be removed, and I am never anxious about hernia.

Case 5.—Mrs. M., aged 23, has a goitre. We do not operate simply because there is an ellargement of the thyroid gland. Indeed, there are many locations where the native usually has a goiter, and would be more of a curiosity without one. The valley of the Tyrol and parts of Venezuela are notable examples. The late Dr. D. W. Hand of St. Paul told me, when he was a physician to the Reform School, then located on the high ground this side of the most populous part of St. Paul, that, out of more than fifty boys at the school, every one had a goiter. I am sure it was due to the influence of the water from the well on the place, a view in which Dr. Hand fully concurred. Aside from the cosmetic

effect we are not concerned with the size of the goiter, but in Grave's disease or the exophthalmic type, with bulging eyes, tachycardia, muscular tremor, shortness of breath on exertion, a peculiar hoarseness called dysphonia, difficulty in swallowing, nausea, and vomiting from pressure on the pneumogastric nerve, and many distressing nervous symptoms, we advise the operation and removal of the larger part of the thyroid gland. I do not know the true pathology in these cases, but that it is due to some perversion of the secretions of the gland seems certain. When the gland is wounded, with insufficient drainage, there is, for a time, decided increase of the symptoms I have just mentioned. My personal experience is, that, like the present case, the right lobe is oftener the larger, and we make the incision over the lobe to the inner side of the sternomastoid in a straight line, separating the deep muscles with dry dissection, and turn the gland up through the incision. I now ligate the superior thyroid arteries, using extreme care to avoid injury to the recurrent laryngeal nerves, split the capsule, enucleate the right lobe and isthmus, ligate off the left lobe, and leave it to perform, as nearly as may be, the functions of the normal gland.

We have found that symptoms of myxedema follow removal of the entire gland. This patient will sit up to-morrow or next day at latest. Drainage will be removed at the end of forty-eight hours, and we shall expect great relief of distressing symptoms in ten days.

Case 6.—Mr. S., a bartender, aged 45, comes to the table for treatment of strictures and cystitis. I have not had an opportunity of examining the case, but rely on the judgment of a most reliable general practitioner, who referred the patient to me, stating that the man required an operation, and that it is almost impossible to pass a No. 4 metal catheter.

We begin with an injection of sterilized sweet oil into the urethra, and then follow with a No. 10 conical steel sound. The rigidity of the strictures in the deep urethra leads me to think they depend upon traumatism, in part at least. We oftenest find resilient stricture resulting from specific urethritis. I never divide one of these fibrous rigid strictures without searching for stone, not only as the result of the stricture, but often as the result of mental or physical bodily impairment. The first lithotomy I ever made was for a phosphatic stone, size of an egg, in a man suffering with partial paraplegia resulting from a seventy-foot fall. There were urethral fistulæ in this case, because of extreme low vitality of parts, due to inhibition of the nerve supply.

We finally get the beak of the sound into this man's bladder, and immediately detect the grating of phosphatic stone, not like the click of uric acid calculi, but as if the tip of the sound were grating a lump of loaf sugar. We will now pass sounds of increasing size up to No. 18. The bleeding shows the divulsion, rather than stretching, of some stricture fibres. We next inject six ounces of saturated solution of boric acid, and introduce the grooved sound, or staff, as a guide for the straight-backed bistoury into the bladder. I choose the lateral incision, which is really oblique from a point in the raphé, midway from the scrotum to the anus, to a point half way between the anus and the left tuberosity of the ischium. If the operator were left-handed, he would incise to the left. I deepen the incision, stretch the wound with my fingers, and pass the bistoury along the sound, dividing the urethra and prostate into the bladder, making, as nearly as possible, a three-quarter inch opening into the bladder, the boric acid solution gushing out freely. I push my finger in this opening and stretch all the tissues to at least a fifty-per cent increase, and, after withdrawing the staff, I introduce the lithotomy forceps, and grasp the stone. It partially crushes, and we bring out the first fragment, which is one inch in diameter. Now wash out the débris with more boric solution, and again explore with the finger, bimanually, crowding each part of the bladder down and around the finger, and we detect an encapsulated stone to the left of, and encroaching on, the prostate gland. This, as you see, requires patient and tedious enucleation, and as we try to remove it, it breaks piecemeal, so that the forceps does not get out all of the stone. We now use an irrigating curette and scoop out the cavity, irrigating the bladder repeatedly, until the last of the tangible particles are removed. We introduce a large drainage tube, and fasten it to the fascia with a retaining suture. Through

this the bladder will be irrigated daily to loosen any remaining pieces of phosphatic sand.

The old question of suprapubic or subpubic operation comes up. Why did we go below, and, if so, why not crush the stone instead of resorting to lithotomy? In answer to both these questions, we are sure that to have proceeded by any other method would have been wrong on account of the strictures, for a suprapubic cystotomy is very difficult to close when there are strictures, and it is practically impossible to use the lithotrite through such a urethra. Again, had there been no strictures, the encapsulated stone could scarcely have been removed by the lithotrite and wash bottle. Unless one expects to do at least two hundred stone operations, I should not advise him to try lithotrity. I have assisted the most expert man in the Northwest for an hour, by the crushing method, and at the end of that time, cut the patient and removed the calculus; yet I have operated by this method when there was a soft phosphatic stone of large size, and finished the operation in twenty minutes, and had the patient at his business in four days. One usually proceeds in the way in which he feels most confident of success, and I now invariably made the infrapubic lithotomy.

Case 7.—Mr. L., aged 38, married, merchant, well nourished, gives history of dysentery of long standing, with painful defecation and bloody, purulent stools, disturbed digestion, backache, and this last exacerbation accompanied with some fever and sweating. We usually suspect cancer with such a history, but on examination we can find no evidence of it in this case. There is a small fissure, an irritable sphincter, and some sessile piles just above.

We now dilate the anus completely, and evert the lower bowel equine fashion, and disclose a very thick mucous coat infiltrated through its entire length, and beyond the touch of finger of observation through speculum. This could be tubercular, syphilitic, or gonorrheal. There are no isolated indurated lumps or ulcers which would naturally be associated with a syphilitic case, and no history of chancre. There has been a previous gonorrhea. The general physique does not indicate tuberculosis. After removing a specimen for the microscope, we shall mop the entire surface with a 20 per cent solution of silver nitrate, and, after a short delay, wash out the rectum with normal salt solution; excise the fissure and piles, vaseline the anus, and apply a T bandage, and send the patient to bed.

The diagnosis in the case is tentatively gonorrheal proctitis. The patient has had several other attacks during the past five years. It has been denied that the gonococcus will infect the mucous membrane of the bowel, but I have been convinced that it does occur, and proves most persistent.

This brings us to high noon, an hour over the allotted time for the clinic, and the class is dismissed.

WHY WE ARE SOMETIMES OBLIGED TO RE-OPERATE IN GALL-STONE CASES*

By James E. Moore, M. D.

Professor of Surgery, University of Minnesota.

MINNEAPOLIS

A certain number of persons operated upon for gall-stones—estimated by different operators at from five to fifteen per cent—have a return of their former symptoms, and many of them require a second operation. These secondary operations, however, should not be resorted to with undue haste, because it is not uncommon for patients to suffer from attacks of pain within the first few months after operation that are transient in character. I usually tell my patients before operation that they are liable to experience some discomfort for a time after operation, assuring them at the same time that it will soon pass away. This discomfort, which sometimes amounts to severe pain, is doubtless due to the unnatural attachment of the gall-bladder to the abdominal wall, and its disappearance is due to the stretching and general adapta-

*Read before the Minnesota Academy of Medicine, April 5, 1905.

tion of the parts to the new order of things. Patients upon whom cholecystectomy has been performed are less liable to a recurrence of symptoms, and this is one good argument in favor of that operation.

The various conditions which may require a second operation are fistula, stones that have been overlooked at the first operation, adhesions, cholecystitis, and the re-formation of stones.

In the early history of gall-bladder surgery, when we attached the gall-bladder to the integument, biliary fistulæ were very common, but since we have learned to attach it to the peritoneum they are rare. The rule is now that when a fistula remains it is due to an obstructed duct from a stone or stricture. A mucous fistula means an obstructed cystic duct, and indicates a cholecystectomy.

The vast majority of secondary operations are required for the removal of stones left at the first operation. Early operators were pleased and content to find and remove stones from the gall-bladder, but they soon learned that stones were frequently lodged in the cystic duct. Later they found them in the common duct, and still later in the hepatic ducts. At the present time no gall-stone operation is complete without a thorough examination of the cystic, common, and hepatic ducts. A finger should be introduced into the gall-bladder to detect stones in the various folds of the mucous membrane, or in the beginning of the cystic duct, which might not be found by an instrument. A thumb and finger should then carefully palpate the whole course of the ducts from the peritoneal side. When a stone is found in the common duct, this duct and the hepatic ducts should be carefully explored by a finger passed into the opening through which the stone has been removed. Probes are notoriously fallible in these cases. The dilatation of the ducts usually makes this a very simple procedure. When stones are left it is most commonly due to the inexperience or carelessness of the operator. Adhesions and inflammatory deposits may deceive the operator, as in the following case:

Case 1.—Mr. E. C. B., aged about 30; a well developed, trained athlete. For some time the patient had been in failing health. He had a full complement of gastric symptoms, indicating pyloric obstruction. For some time previous to operation he had been subject to acute gastric crises usually occurring about two a. m. He had lost appetite, flesh, and strength. With the patient upon his back no mass could be felt at any point, but he complained of a tenderness over the epigastrium. With the patient upon his left side a hard, nodular mass could be felt just below the outer edge of the left rectus muscle in the epigastric region. The character and location of the tumor, together with the gastric symptoms, suggested cancer of the pylorus, although the age and appearance of the patient were against this diagnosis. I agreed with his physicians, Drs. Bell and Head, who called me into the case, that an operation was indicated.

On November 16, 1901, I opened the abdomen through the median line above the umbilicus. The omentum was adherent to the abdominal wall. The nodular tumor was found to be an enlarged gall-bladder filled with gall-stones. Its abnormal position, which obscured the diagnosis, was due to extensive adhesions between it and the gastrohepatic omentum and pylorus. The stomach was somewhat dilated. Upon opening the gall-bladder a clear, yellowish fluid escaped, followed by a purulent-looking material. Eight large stones were removed from the gall-bladder and cystic duct. The median incision and the extensive adhesions around the cystic duct made the operation rather difficult, but I felt confident that all stones were removed. The bladder was drained, and the patient left the hospital in about two weeks with a sinus. After leaving the hospital the sinus continued to discharge mucus but no bile, so he was advised to have a second operation, although his pain had been relieved and his health had improved.

On January 29, 1902, about two and one-half months after the first operation, I performed a cholecystectomy, and found a stone deep in the cystic duct, after which he made a prompt recovery. With my three years' additional experience I would not now be obliged to re-operate under such conditions, because I should perform a cholecystectomy at once, but at that time cholecystectomy was not nearly so well established an operation as it now is.

In some cases a stone may have passed entirely outside of the bladder and ducts, when the oper-

ator can scarcely be held responsible. This is well illustrated by Case 2.

Case 2.—Mrs. M. D., aged 45. For seven years this patient had been suffering from attacks of gall-stone colic, many of which had been followed by jaundice. On December 7, 1903, at the Northwestern Hospital, I made the usual incision through the right rectus muscle. An adherent diseased appendix was first removed. The gall-bladder was slightly enlarged and thickened, and contained mucus, bile, and numerous large green stones. The stones were removed, and the bladder drained in the usual manner. The ducts were carefully palpated, and no stones found. Bile flowed freely from the tube, and the slight jaundice and temperature present at the time of operation soon disappeared. The patient left the hospital in three weeks with a very small sinus, which soon healed.

For a few months this patient was free from pain and gained rapidly in health, flesh, and strength, but after that she began to have pain accompanied by fever, and in September, 1904, returned to the hospital with a high temperature and what seemed to be a greatly distended gall-bladder. On the morning after her arrival, an abscess opened through the upper end of the scar, and in the pus we found one medium-sized stone. The opening made by nature was quite large, and through it we could feel and see that the abscess cavity was in the liver, its lower wall being made up of the upper wall of the gall-bladder. There seemed to be no communication between the abscess cavity and the gall-bladder. The cavity filled up rapidly, and the wound closed in about two weeks.

On November 11, 1904, this patient returned to the hospital for the third time, complaining of some pain, a sense of fullness, and a tumor under the scar. She said that this tumor had appeared and disappeared several times since her abscess had broken. I made a diagnosis of distended gall-bladder from obstructed cystic duct, and on November 12 performed a second operation. I found the gall-bladder distended with mucus, which was due to compression of the cystic duct by adhesions following the abscess. No stones were present. I removed the gall-bladder, and the patient left the hospital quite well on December 8, and when last heard from was doing well.

In this case a stone had evidently passed through the wall of the gall-bladder into the liver some time—possibly years—before the first operation, so that I was surely excusable for not finding it.

It is easy to understand how adhesions left at the operation, or forming after the operation, may cause jaundice by pressing upon the common duct, or may cause serious gastric and intestinal disturbance by adhesions to the stomach or intestines. The rule is, however, that after removing the offending stones the adhesions disappear. This rule is so well established that it is considered necessary to break down only such adhesions as interfere with the certain detection and removal of the stones. We have all seen very extensive adhesions disappear after the removal of a diseased appendix. There are exceptions to this rule, and in some cases in which a second operation has been performed the only cause for the symptoms found was adhesions.

Some gall-bladders become inflamed, and require an operation after the stones have been removed, even when no stones were left over. It is not surprising that these damaged gall-bladders sometimes become inflamed, because many gall-bladders become inflamed that have never contained stones.

In the early history of gall-stone surgery it, like every other great advance, met with strong opposition from those who styled themselves conservatives, and one of the strong arguments advanced was that it was useless to remove the stones because they would form again. At first surgeons were prone to admit that they did reform quite frequently, but later, as their technic improved, they learned that many supposed recurrences were cases in which the operator had failed to remove all of the stones at the first operation; and now the tendency is to go to the other extreme with the claim that recurrence rarely, if ever, occurs. It seems to me that this extreme view is not rational, and only shows the tendency of our profession to go to extremes.

Kehr admits the possibility of recurrence, but has not seen it. Robson and Mayo have not seen it. Moynihan does not mention it—all of which proves that recurrence is rare, but with all the respect and admiration I have for these men of such vast experience I cannot help but believe that they have censured themselves and

others too severely by claiming that some re-operated cases were left-over cases, when they really were recurrences. Every honest surgeon admits that he has sometimes failed to remove all of the stones, but I believe that when we operate upon a patient who has been operated upon previously by some other surgeon, we should admit that possibly this is a recurrence. We cannot possibly keep track of all our patients, and we do not know how many of them have been re-operated upon by other surgeons. A few years ago when a number of surgeons were burying silver wire in their hernia operations they did not remove the wire at a later date nearly so often as the rest of us did. We believe that in most, if not all, cases, gall-stones form in the gall-bladder. Having done so once, what is to prevent them from forming again? We believe that the presence of bacteria in the gall-bladder is the usual cause for the formation of gall-stones. What is to hinder the entrance of bacteria into the gall-bladder a second time? If a person has an inherent tendency to the formation of gall-stones, what is there about an operation to change that tendency? Stones recur in the kidney and the bladder; why not in the gall-bladder?

I report the following as a case of recurring gall-stones.

Case 3.—Mrs. R. R., aged 43. This patient had suffered for years from "stomach trouble," and for the past four years had had repeated attacks of gall-stone colic.

In June, 1903, I operated, removing a large number of stones. The ducts were found clear; the bladder was drained; the sinus closed in six weeks. The gall-bladder was quite large, and was easily examined by a finger passed inside of it, so that I know there were no stones left.

For eight months this patient was free from pain, and then had an attack lasting for three days, with intervals of rest. Her next attack was four months later, and after that they were quite frequent, until January 5, 1905, when I performed a second operation at the Northwestern Hospital.

The gall-bladder was found enlarged, thickened, and surrounded by many adhesions. It contained bile, mucus and myriads of small, soft yellow stones, evidently of comparatively recent origin. Upon palpating the gall-bladder before opening it we got the impression that it contained a number of medium-sized stones, but this sensation was due to the fact that the very small stones were assembled in groups, which were held together loosely by mucus. These groups doubtless would have become large stones in the course of time. I performed a cholecystectomy, and although the patient was very feeble at the time of operation she made a good recovery, and left the hospital in about three weeks. At last report she was free from pain, and slowly improving in health.

This patient came to my office April 6, the day after the reading of this paper, looking ten years younger, and the picture of health.

DISCUSSION

Dr. F. A. Dunsmoor thought that the fact of there being so few cases for re-operation proves the superiority of surgical over medical treatment. He had never seen but one case re-operated where stone was found, and this was one in which the stone had been overlooked in the primary operation. He cited a case in which a stone of the size of a hen's egg was found in the substance of the liver, presumably formed there. Substances people drink have to do with the formation of gall-stones, especially beer. Mountainous districts furnish a large percentage of the cases, while in prairie districts they rarely occur. The Carlsbad spring waters do cure gall-stones, but they are apt to recur.

Dr. J. L. Rothrock had operated upon two cases; one in which he had made the primary operation, the other had been operated upon ten years ago by another man without relief. In this case the gall-bladder was removed.

Dr. Nippert thought the stones sometimes form in the ducts and sometimes in the liver, as well as in the gall-bladder.

Dr. Benjamin referred to a case in which a three-ounce bottleful of stones was shown by the patient which had been collected from the stools over a period of twenty years or more. In another case the stones had been vomited up, one stone being nearly as large as an egg. This one he thought must have ulcerated through the duodenum and stomach walls.

Dr. Head asked whether in a case he had in mind, the patient 55 years old with a small mass in the epigastrium, exploratory incision revealing inflammatory mass with the gall-bladder adherent to the stomach, the operation should be made radical as to the removal of the gall-bladder, there being no stones present and no cholecystitis.

Dr. Moore replied that he thought it should be.

Dr. Stewart thought some cases have severe pain even for several months after operation, not because of a recurrence of stone, but from acute cholecystitis.

Dr. Dennis thought that all the experiences related point to the importance of the removal of the gall-bladder. The danger of recurrence of stones is so great that he believes the majority of these operations should be radical. He had seen a case to-day which emphasized that point, and many others in which the pain had been so great as to warrant this conclusion.

Dr. Little took exception to Dr. Dennis' view, for the reason that the gall-bladder has a function, and therefore is not like the appendix, to be removed at the slightest evidence of disturbance, but rather should be drained and preserved. He followed the rule that where there is free bile in the bladder to let it alone.

Dr. Moore said, in closing, that in the main he would agree with Dr. Little in his view rather than with Dr. Dennis. In some cases removal is absolutely necessary, and he thinks the time is coming when it will have a fixed place in surgery.

APPENDICITIS*

By R. E. Farr, M. D.

MINNEAPOLIS

I shall not attempt to fully discuss a subject as broad as the one which I have chosen for to-night. I lack both the time and the ability to do so. I shall present some reports of cases which have come under my observation, call your attention to a few points that have appeared to me to be important, and hope to stimulate a discussion that may be of benefit to the society.

Attacks of appendicitis, very early or even late, may so closely resemble other conditions, and *vice versa*, that a diagnosis may be very difficult or quite impossible. Even in the hands of the ablest of diagnosticians such mistakes are fairly frequent. In cases in which the symptoms are not characteristic nor directly referred to the right lower quadrant of the abdomen, we are apt to forget that the appendix may be the seat of the trouble; while, on the other hand, other lesions in this region are frequently diagnosed appendicitis. De Forrest Willard has said: "At the present day it is well to remember that an individual may have pain in the right iliac region without having appendicitis and that a woman may have a pelvic abscess which is not due to tubal disease." In 1902 Joseph M. Spellisy collected 194 cases from the literature that had been mistaken for appendicitis, all of them being due to a lesion of some other structure. Several similar mistakes have been reported since. In a large number of these cases the correct diagnosis was made only after exploratory incision.

The following case has been of some interest to me:

Horace B——, aged seven and a half years, entered St. Mary's Hospital, and the following history was given: A maternal aunt died of pulmonary tuberculosis; father and mother, brothers, and sisters living and well. He has always been healthy until fifteen months ago, when he had an attack of scarlet fever which was followed by a mild inflammation of the kidney. From this he completely recovered in a few weeks. Since then he has apparently been perfectly well until the onset of the present trouble.

Seventeen days before admission, while riding horseback, the boy was injured by being thrown forward upon the animal's shoulders. The exact point of injury could not be ascertained. He complained of pain in the right pelvis and walked

*Read before the Minneapolis Medical Club, November, 1904.

with a limp. The symptoms gradually increased in severity and on the third day he was no longer able to walk about, any effort to extend the right lower limb, which he held in acute flexion, being accompanied by intense pain in the right pelvis and groin. He continued to grow worse and when first seen by Dr. F. H. Turner, on the seventh day of his illness, his temperature was 104.5°. There had been nausea occasionally, but no vomiting. There was complete loss of appetite. The urine was normal.

On physical examination I found him somewhat emaciated and pale, with a decidedly septic appearance. He lay upon his back, grasping his right thigh with both hands and holding it firmly in acute flexion upon the abdomen. The doctor told me that this attitude had been maintained since the third day of his illness. The abdomen was distended with gas. There was no tenderness along the spine and no tenderness or swelling in the loin, gluteal or perineal regions, nor below Poupart's ligament in the thigh. He would not allow any manipulation of the right lower extremity on account of the severe pain such movement produced within the pelvis. There was marked muscular rigidity upon the right side. The distension was relieved by rectal enemata, and the abdomen prepared for operation. On the following day, under chloroform anesthesia, the limb assumed its normal position. The right iliac fossa contained a tumor mass extending from the anterior superior spine of the ilium to Poupart's ligament below and internally to McBurney's point. It could be seen as an oblong, slightly elevated swelling. On palpation it was very firm, but seemed to fluctuate. The percussion note was dull over the most prominent portion of the tumor.

The picture was very suggestive of a circumscribed appendiceal abscess. The absence of any history or local indications of Pott's disease, the position, localization, and dull percussion note over the tumor all argued in favor of an intraperineal lesion. Against this diagnosis, though not incompatible with it, were the history of trauma and the position of extreme flexion in which the thigh was held. Drs. Sweetser, Ailing, and Turner, who saw the case under chloroform, concurred with me in my diagnosis.

Operation.—An oblique incision was made one and one-half inches internal to the iliac spine at a point corresponding to the most prominent part of the tumor. I found the general peritoneal cavity to be free from signs of recent inflammation. The cecum was displaced to the left by the bulging of the postero-external wall, thus accounting for the dull note previously elicited on percussion. The appendix was thickened and kinked, showing signs of former trouble, and was at once removed. The abdominal wall was closed in layers and a collodion dressing applied.

I then made an incision through the skin, directly over the iliac spine, and forced a large blunt pair of hemostats obliquely through the soft tissues, liberating nearly a quart of creamy, odorless pus from behind the peritoneum. Upon exploring the cavity with the finger the iliacus muscle seemed rough and infiltrated; no necrosis of any of the bones of the pelvis could be made out. The cavity was sponged out with gauze pads, and gauze drains were introduced. The discharge, profuse at first, rapidly decreased in amount, and by the tenth day had entirely ceased. The temperature remained normal after the operation. Some difficulty was experienced in overcoming the acquired malposition of the limb, but this was gradually accomplished, and by the end of the third week he was able to walk about.

Dr. Wm. C. Chowning reports that he was able to obtain pure cultures of staphylococcus albus only. No tubercle bacilli were found.

The most common causes of these abscesses are:

Tubercular disease of the bones, spine, femur, pelvis.

Perinephritic abscess, pyonephrosis.

Gonorrheal prostatitis or urethritis.

Suppuration of the iliac glands and traumatic lesions of the muscles.

The sudden onset, acute course, absence of evidences of bone involvement, the bacteriological findings, and especially the rapid recovery, would probably exclude tubercular disease. Perinephritic abscess, pyonephrosis, and gonorrheal infection need hardly be considered in connection with the etiology of this case. Suppurating iliac glands are usually the result of the extension of some infectious process involving some other part of the limb. No traces of such a starting point could be found. I believe this abscess was due

to trauma of the iliacus or psoas muscle, or of both, possibly resulting in the formation of a hematoma, which had become infected.

At this time I wish to report the following case also, which was referred to me by Dr. La Pierre:

Boy, aged 10; both parents, three brothers, and three sisters living and well; paternal uncle died of pulmonary tuberculosis. He has never been sick until the present trouble began. For the past two or three months he has limped occasionally while at play, and complained of pain along the anterior aspect of the thigh. Thirteen days before admission he suddenly became very ill, vomited several times during the first twenty-four hours, complained of a severe pain all over the abdomen, but more especially over the right side and down the anterior aspect of the thigh. His temperature reached 104° on the second day, and he had several chills. The bowels were fairly loose, the urine scanty and high-colored, but otherwise normal.

On examination, the patient presented much the same appearance as did Case 1. He was pale, emaciated, and profoundly septic. The right thigh was held in moderate flexion, the abdomen was distended with gas, its walls very rigid, especially upon the right side. Above the crest of the ilium and extending upward and backward into the loin, a large swelling could be plainly seen. On palpation it gave a sense of fluctuation through the tense muscular wall. On percussion it was tympanitic. The pressure upon the tumor caused him to complain of pain along the front of the thigh. His temperature was 99° at this time. The spine was apparently normal, and the most careful questioning failed to disclose any history of Pott's disease. I had the boy removed to the hospital, and the abdomen prepared for operation. High enemata aided in reducing the distension. On the following morning, two weeks after the acute onset, chloroform was administered. The oblong swelling had lost none of its prominence. On deep palpation an indurated mass could be felt extending from the loin down to McBurney's point. The regions just above and below Poupart's ligament were apparently normal.

Operation.—I made an incision through the edge of the rectus, above McBurney's point, and after carefully packing off the general peritoneal cavity I separated the colon from the abdominal wall where it was bound by inflammatory adhesions, and liberated a large amount of foul-smelling pus. Upon exploring the abscess cavity the remains of the appendix could be followed upward and backward, the tip being close to the right kidney. The organ was gangrenous, and was removed in fragments. No attempt was made to invert the stump, as it could not be brought into view. A cigarette-drain was carried to the upper part of the abscess cavity, and another to the stump of the appendix. The rest of the wound was closed. Uncomplicated recovery followed.

I report this case at this time because the diagnosis was rather puzzling to me. In many ways the condition resembled a lumbar abscess. The tissues were boggy, and there was a distinct bulging in the lumbar region. He had been complaining of pain for two or three months, along the thigh, and would not allow me to manipulate the right lower limb. After having gone wrong on Case 1, I was perhaps over-cautious. (The house officer was very sure it was a case of Pott's disease.) I believe that many of these cases seen in consultation late in the disease present difficulties even greater than those met with during the acute attack.

Generally speaking, appendicitis may be said to be common, and, on account of often mistaken diagnosis, resulting in improper treatment, exceedingly treacherous. Early diagnosis and the institution of proper and efficient surgical treatment, make the mortality very low. I would most earnestly advocate the exercise of the utmost vigilance in the early examination of suspicious cases. I feel certain that a great many lives are sacrificed on account of laxity in this regard, while if the symptoms and signs present had been correctly interpreted an early diagnosis might have been made, proper surgical treatment carried out, and a fatal issue avoided.

The subject of treatment has been widely discussed. Extreme views have been held by both surgeons and internists, and many battles have been waged between these earnest workers in the quest of the correct solution of this difficult problem. Deaver and some of his followers are supposed to advocate immediate operation on every case as soon as the diagnosis is made, providing surroundings will permit and a skillful surgeon is at hand. Ochsner and others, on the other hand, favor an expectant plan of treatment in selected cases, preferring to tide the patient over the acute stage before operating. Of course neither of these rules will apply in all cases. After the lapse of forty-eight hours each case much be handled according to its course, and here is where the surgeon's judgment is put to

the test. I believe, as a general rule, a waiting, starvation plan is to be preferred. However, this rule has many exceptions.

A man of twenty-one had a typical attack of appendicitis three days before entering the hospital. His temperature was 103°, and examination disclosed an indurated mass with rigidity of the muscles of the right lower abdomen. The treatment recommended by Dr. Ochsner was carefully followed. The temperature gradually dropped, the rigidity became less marked, and the tumor mass was receding. On the morning of the seventh day he developed a chill, and the temperature rose to 104°, the abdomen became greatly distended, and only immediate operation and drainage saved him from probable death from a general septic peritonitis.

I saw a boy of sixteen, twelve hours after the beginning of an attack. He had vomited after some heavy gymnastic exercise, had slight chilly sensations, the temperature was 99.6°, and he had rigidity of the muscles and tenderness over McBurney's point. I made a diagnosis of appendicitis, and advised immediate operation, which was refused by his mother, who did not consider his condition serious enough to warrant such treatment. The Ochsner plan of treatment was applied, but the boy died in seventy-two hours of general septic peritonitis. I have seen cases in which this line of treatment had been followed for several days, in which the symptoms were abating nicely, when surgical interference promptly resulted in death.

I think physicians and surgeons in general agree that all cases should be operated at the beginning of the attack if it can be done early enough. Forty-eight hours is generally given as the latest time for the performance of this operation, the object being to reach the seat of the disease while it is still confined to the appendix. In a recent case I found the appendix gangrenous, with a small amount of pus around its base, in the thirty-fifth hour of its first attack.

By making an early diagnosis and at once removing the offending organ, we can best eliminate such distressing sequelæ as infectious processes, ventral hernia, inflammatory adhesions, etc.

HOSPITAL BULLETIN

ST. BARNABAS HOSPITAL

MINNEAPOLIS

REPORT OF A CASE IN WHICH DEATH OCCURRED THREE DAYS AFTER AN EXAMINATION UNDER ETHER

IN THE SERVICE OF DR. G. C. BARTON

Mrs. K——, aged 38, was sent to St. Barnabas last March on account of profuse hemorrhage from the uterus. I saw her then for the first time. She gave a history of having had small growths removed from the uterus on several occasions. She had never taken an anesthetic, however. Shortly after the last recurrence, which was about two years ago, she had a profuse hemorrhage, and subsequently she flowed excessively at every menstrual period. Just before entering the hospital she had been examined by a physician who told her that she had a tumor which should be removed.

Dr. Rochford examined the case with me. We found a large smooth tumor which projected into and almost wholly filled the vagina. It extended upward to the fundus, which was a little above the symphysis pubis. It seemed to arise wholly from the right side, and on this side the os was completely obliterated. The entire mass felt like an inverted uterus.

The patient refused to consent to an abdominal operation, and it was decided to give ether with the idea of making a more complete examination, and of removing the tumor by the vagina if this were found to be possible. When under the anesthetic she was thoroughly prepared as for operation. It was impossible to draw the tumor down, and it was decided that it would be unwise to attempt its removal through the vagina. The patient was therefore sent back to the ward.

The next morning she complained of indefinite pains, of "feeling bad all over." She had then a slight rise of temperature, and was vomiting considerably. That evening her temperature rose to 104°. The urine, which had been normal before the ether, now showed casts and some albumin. The following morning she complained of excruciating pain in her right ankle. The ankle showed no swelling or discoloration, and yet the pain was so severe that she was unable to endure the weight of the sheet. Asparin was given. That evening her temperature was 104.5°. The pulse was rapid and weak. She was moreover flowing considerably. She grew gradually weaker and died on the following day, which was three days after she had taken ether.

An autopsy was obtained. The tumor proved to be a large fibroid, and the diagnosis was confirmed microscopically. There was no indication whatever of peritonitis. The appendix was

long and showed signs of old chronic trouble. The stomach and intestines were normal. The left kidney was removed. Macroscopically it was large, and filled with blood. Microscopically it gave the picture of a kidney acutely inflamed. The whole kidney was markedly congested, and the glomeruli were undergoing acute degeneration.

The thorax could not be opened. The heart showed no enlargement or irregularity on palpation.

Nothing abnormal was found about the ankle.

It is extremely difficult in this case to say what was the cause of death. The symptoms would naturally suggest septicemia, but the autopsy failed to corroborate such a diagnosis. The chances of infection moreover at examination were very small. An acute nephritis was undoubtedly present but with no suppression of urine, and no edema whatever one would scarcely expect it to be of a sufficiently severe type to cause such a rapid death. The temperature, moreover, was much higher than one would ordinarily anticipate from acute Bright's.

EPITHELIOMA OF THE LIP

IN THE SERVICE OF DR. A. E. BENJAMIN



Mr. J. K——, aged 72; weight, about 150 lbs.; Bohemian; occupation, farmer.

FAMILY HISTORY.—No history of cancer in family.

PREVIOUS AND PRESENT HISTORY.—Had rheumatism when about 20 years old. No history of any other disease. Has always been healthy and strong, and was a hard worker.

Has smoked ever since he was a boy—a common every-day pipe. Has carried the pipe in his mouth all day long, and would often get up in the night to smoke. He was in the habit of resting the pipe on the left side of lower lip.

Last August (six months ago) he first noticed the sore. It looked like a pimple, and appeared on the left side of lip in the spot where he was in the habit of holding the pipe. The sore was about half the size of the little finger nail when first noticed. The spot was not tender, but itched. The growth was slow at first, and up until three weeks before coming to the hospital it was not larger than a small chestnut. Shortly before coming to the city he applied some salve. The third day after the application of the salve, he noticed that the tumor was growing rapidly. The salve was discontinued; but the tumor continued to grow rapidly. He had no pain at any time. The size of the growth at the time of the operation was 3 inches long, 1½ inches deep, and 1 inch thick. It had a cauliflower appearance, was ulcerated, and had pus on the upper surface. There was no glandular involvement.

OPERATION.—A modified Brun's operation was performed. The whole of the lower lip from the angles of the mouth far down on the chin was removed. The modification consisted of Malgaigne's flap from the upper lip on the right side to form the lower lip. The patient stood the operation well.

Sections made from the removed tissue showed the growth to be an epithelioma containing numerous pearls, very little stroma being present. Two weeks later a second operation was performed to correct a defect in the healing of the wound. This lack of firm union was due to the infected condition of the growth at the time of the operation. Stitch abscesses formed, and the approximated surfaces at the center did not unite perfectly.

A large swelling developed on the left side of the neck ten days after the second operation. He had some fever and pain for two days. The enlargement gradually subsided. The patient returned to his home in North Dakota about four weeks from the time of entering the hospital.

The interesting features of this case are as follows:

1. The extent of the growth, as shown in the photograph.
2. The rapidity of the growth, and the almost painless condition.
3. The amount of ulceration and infection present.
4. The good serviceable lower lip secured after all of the lower lip was removed.
5. The swelling, which came on subsequently with pronounced symptoms and which disappeared a short time afterwards.
6. The case would seem to add one more to the list of cases illustrating irritation as a factor in the production of cancer.
7. The lack of glandular involvement with so large a primary growth.

NORTHWESTERN LANCET

A SEMIMONTHLY MEDICAL JOURNAL

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THE VETOES OF TWO GOVERNORS

Governor Johnson, of Minnesota, deserves the thanks of the profession for his veto of a pernicious chiropractic bill that was unduly flaunted and persistently pushed in the last legislature. The reasons given for the veto are clearly set forth, and shows the stamina of the governor. If more vetoes of this kind were promulgated by the governors of the various states there would be less of these fake methods of treatment.

THE GOVERNOR'S REASONS

The best information of which I am possessed reveals to me the fact that chiropractic, so-called, is a discovery of very recent origin, and was discovered and developed by men who were not learned in the science of healing disease. It is not apparent to me that the devotees of this so-called art in this state are posssessed of the proper knowledge of anatomy and kindred subjects to properly constitute a board for the examination of others in those subjects.

The enactment of a law creating a state board of chiropractic examiners and registration, and to regulate the practice of chiropractic in the state of Minnesota, and to license chiropractors, will dignify this new and untried school to the extent that the people will look to it as a panacea and remedy for the ills to which the human body is heir, and must from the very nature of that confidence so established, be more or less imposed upon by practitioners who will have adopted this means to abuse the confidence of the public.

Chiropractic has not yet become a science or even a school, and is at best but an untried experiment which has produced no lasting or definite results. Among the applicants for positions on this proposed board are insurance agents, and men in other walks in life, with absolutely no medical training whatever. The health of the public is the first essential, and should be safeguarded by every possible legal requirement, and if chiropractic must be recognized at all, those practicing this so-called art should certainly be required to pass examination in the essential branches by due and regular examination before the state medical board, which represents the best thought and is the recognized and established standard which has been developed from the experience of the ages.

Governor Cutler, of Utah, has also just vetoed an osteopathic bill, and he gives equally cogent reasons for his action.

GOVERNOR CUTLER'S VETO

In passing upon this act, I have kept in mind the fact that the object of medical legislation is not to benefit the doctors of any school or class, but to protect the public against practice in lines of medical work which the practitioner does not fully understand. Senate Bill 92 gives to Osteopaths the right to practice minor surgery, and to treat cases, including contagious and infectious diseases, without having first passed examination before the regularly constituted Board of Medical Examiners, in fundamental principles of medicine and surgery, as prescribed by the law. It appears to me that this would open the door for incompetent practitioners to enter our state. The present law seems to me to be broad enough to insure fair treatment to competent physicians of all schools; and under its provisions Osteopaths are allowed the privilege of practicing, upon passing examination in the principles underlying their practice, before a board consisting of graduates of various medical schools, and representing broad medical training and sympathy. And I believe that no one should be regularly licensed to practice even minor surgery, without first passing a thorough examination in the fundamental principles of anatomy and surgical practice.

Since, therefore, the present law seems to me sufficient, I am led to withhold my approval from this act.

TUBERCULAR JOINTS

The active discussion by the anti-tuberculosis organizations on the prevention of the disease is limited almost entirely to the pulmonary varieties and the methods by which tuberculosis is conveyed from one person to another. It would be well to keep in mind the dangers of tuberculosis of other organs, particularly the forms which originate from injuries, or, if present in the joints, the dangers to the sufferer. While we are striving to educate the public on the horrors of the spitting habit, and the dirt and dust, as carriers of the disease, it would be wise to incidentally instruct the patient that the use of a tubercular joint may cause widespread results.

Experiments have shown that a joint inoculated with tuberculosis may remain latent, or may heal if the joint is kept at rest. It is necessary, however, that the joint be absolutely immobilized, with or without extension, to expect a cure. True, a good many tubercular joints are un-

protected, and used without marked inconvenience, but they belong to the uncertain and unknown possibilities of human existence. Many of us go through the world missing instant or slow death by chance, but the individual who has an infected joint is in great danger at all times.

Many cases of tuberculosis of joints develop serious lesions or contractures in less than a month, and many others are followed by a general tubercular infection. It is not uncommon to find joint diseases from injury, develop an acute local tuberculosis, followed by a systemic disease, within six months or a year. An educational campaign for the extermination of tuberculosis should consider the various phases of the disease. Children and grown people should be warned of the seriousness of tubercular joints, and the physician should be in readiness to advise and treat by immobilization all incipient joint troubles in suspected cases.

THYROID TREATMENT OF CHRONIC ARTICULAR RHEUMATISM

C. Parhon, in a paper in the Presse Medicale, Paris, which is abstracted for the Journal of the A. M. A. for April 15, advocates the use of thyroids in pain and stiffness of the knees and other joints. He cites the case of a man of 47 upon whom the alkaline treatment was beneficial for a time, but it was discontinued on account of the annoying dyspeptic symptoms, which were due to the sodium bicarbonate. On account of a constant sensation of cold, dryness, and eczema of the skin and hypo-azoturia Parhon believed the thyroid gland was inefficient. The thyroid treatment relieved all of the symptoms.

Lancereaux, Claisse, and others have reported similar success with thyroids in cases of chronic articular rheumatism on the ground that the defective functioning of certain organs with an internal secretion may have more to do with the origin of certain cases of articular rheumatism than have been recognized hitherto.

It is claimed that the thyroid and ovary favor the formation and elimination of urea. Similarly, a nephritic with edema, oliguria, and albuminuria was put on thyroids with a marked increase in the urine and a disappearance of albumin.

Viala says thyroids stimulate the circulation, increase the secretions, and eliminate effete matters; reduce weight in proportion to the superactivity of the metabolic processes; and hence cause the disappearance of joint symptoms.

Of course, thyroids should not be used indiscriminately in all cases of chronic rheumatism. In some the ovarian extract would be more serviceable than the thyroid. Both assist in the elimination of urea, however.

There seems to be an antagonism between the ovary and the thyroid. If the one is deficient, the other is excessive in its functioning.

The use of thyroid is sometimes startling in its prompt relief of obscure symptoms; at other times disappointment follows in its application. In many chronic cases we are obliged to experiment in therapeutics, hence thyroids may supply a "something" in the economy that is lacking.

DR. WEBSTER'S ADDRESS

The title of Dr. Webster's paper has been changed for the annual meeting of the Hennepin County Medical Society.

"Appendicitis and its Relation to Pelvic Disease and Pregnancy" is the subject, and it will prove interesting to the surgeon and general practitioner.

Remember, the meeting takes place at the West Hotel Monday evening, May 15th.

FULL TRAINS TO THE A. M. A. MEETING

All the seats in the two special trains starting from Chicago for Portland for the meeting of the A. M. A. have been taken, and the reservations for the Twin City train indicate that many physicians will be unable to get berths on this train. Of course the N. P. Railway will take care of all who want to go to Portland, but much of the pleasure and profit will be lost to a physician if he cannot go on a physician's train; therefore if all who are going will notify Mr. G. F. McNeill, 19 Nicollet House Block, Minneapolis, as soon as they decide, it will be possible to arrange for an additional train, if needed. Do not neglect this important matter, for the neglect of a few men may cause disappointment to many.

REPORTS OF SOCIETIES

MINNESOTA ACADEMY OF MEDICINE

A. W. Dunning, M. D., Secretary

The regular meeting of the Minnesota Academy of Medicine was held at the West Hotel in Minneapolis on Wednesday evening, April 5th. There were 28 members present. The name of Dr. Louis B. Wilson, of Rochester, was transferred from the list of active to that of associate members. Dr. Chas. Nootnagel, of Minneapolis, was elected to full active membership.

Dr. F. A. Dunsmoor reported a case of a foreign body removed from the trachea in a very fat, short-necked woman 40 years of age. The right bronchus was entirely occluded, the lung doing no work at all, by a tough, gristly piece of meat. With the alligator forceps a piece of the meat was pinched off, allowing some air to enter, when a severe cough expelled the rest. Recovery was rapid and complete.

Dr. Geo. Douglas Head reported a case of tetany in a woman 32 years old. The diagnosis had been corroborated by the Trousseau sign (a stomach tube wound twice tightly about the right arm, producing the attack artificially). She had as many as seven or eight attacks in a day, lasting from fifteen minutes to three hours each.

Dr. A. E. Benjamin reported a case of hematuria in a man 28 years of age. Medical treatment had not helped him, so after determining which kidney was affected by means of collecting the urine from each ureter separately, an operation was made upon the right kidney. The organ was split, and a small growth discovered between the cut surfaces. Otherwise it was normal. The cut surfaces were then approximated, and recovery from the wound was rapid and complete. The blood continued to appear in the urine for about three weeks, when it ceased suddenly, and he has been well since.

Dr. M. P. Vander Horck cited the case of a young man 19 years old who had hematuria some time ago, which could not be satisfactorily explained at the time. A short time ago, however, prostatic enlargement was discovered, and investigation revealed tubercular infection of the right lobe of the prostate gland.

Dr. James E. Moore read a paper, "Why We Are Obliged to Re-operate Some Gall-stone Cases." The paper was discussed by Drs. Dunsmoor, Rothrock, Nippert, Benjamin, Head, Stewart, Dennis, and Little, and by Dr. Moore in closing (see page 164).

HENNEPIN COUNTY MEDICAL SOCIETY

F. A. Knights, M. D., Secretary

A stated meeting of the Hennepin County Medical Society was held April 3d, the president, Dr. D. O. Thomas, in the chair, and about fifty members and visitors present.

The Executive Committee reported recommending that papers brought before this Society hereafter be limited to fifteen minutes' length.

Upon Dr. Brown's resolution, referred to the Committee at the last meeting, the Committee reported that the plan outlined therein was outside the function of the Society.

The Committee reported also that the annual banquet was planned for the next regular meeting.

This report was adopted by motion.

The committee appointed to draft resolutions on the death of Dr. W. P. Spring reported resolutions which were adopted, and ordered spread upon the minutes, and a copy sent to Dr. Spring's family. A letter of thanks from Mrs. Spring was also read.

The president appointed Dr. L. A. Nippert to deliver a memorial address on Dr. Spring's life and character at a future meeting.

Dr. H. B. Sweetser presented a patient with tarsus resected for tuberculosis of bone, the case having been first reported four years ago, no recurrence or systemic infection having occurred. He also presented specimens of thyroid removed by operation.

Dr. Chowning presented a patient having epithelioma of the sole of the foot originally supposed to be a corn.

Dr. J. H. Stuart delivered a memorial address on the life of Dr. A. H. Lindley, and reported

resolutions which were adopted, and ordered spread upon the minutes, and a copy sent to the family.

Dr. W. N. Porteous read a paper entitled "The Necessity of Nasal Breathing and Exercise."

This was discussed by Drs. Brown, Watson, and Todd, Dr. Porteous in closing.

Dr. B. M. Behrens read a paper giving "Further Observations on Catarrh and Predisposition." This paper was discussed by Dr. A. W. Abbott, by Dr. E. J. Brown and Dr. A. E. Anderson and Dr. Behrens closing.

PROGRAM OF STATE MEDICAL ASSOCIATION MEETING

AT ELKS' HALL, ST. PAUL

The House of Delegates will meet May 31st, 2 p. m., in the Lowry Building.

THURSDAY, JUNE 1ST, 9 A. M.

1. President's Address, Dr. J. W. Bell, Minneapolis.
2. Some of the Difficulties in Diagnosis of Surgical Disease of the Kidneys, and How to Surmount Them, Dr. A. W. Abbott, Minneapolis.
 Discussion opened by Dr. M. C. Millett, Rochester.
3. A Case of Renal Decapsulation, Dr. L. F. Schmauss, Mankato.
 Discussion opened by Dr. H. A. Tomlinson, St. Peter.
4. Perinephritic Abscesses in Children, Dr. G. R. Curran, Mankato.
 Discussion opened by Dr. J. B. Dunn, St. Cloud.
5. Floating Kidney, Dr. Theo. Bratrud, Warren.
 Discussion opened by Dr. J. W. Andrews, Mankato.
6. Tubercular Disease of the Kidney, Dr. M. C. Millett, Rochester.
 Discussion opened by Dr. J. W. Little, Minneapolis.
7. Bladder Extrophy, with Report of a Case, Dr. R. C. Dugan, Eyota.
 Discussion opened by Dr. C. A. Wheaton, St. Paul.

THURSDAY, JUNE 1ST, 1:30 P. M.

1. Oration on Surgery, Dr. W. L. Rodman, Philadelphia, Pa.
2. Symposium on Tuberculosis:
 a. Tuberculosis and its Care,
 Dr. H. M. Bracken, St. Paul.
 b. Sanatorial Care of Tuberculosis,
 Dr. H. L. Taylor, St. Paul.
 c. Dispensary Care of Pulmonary Tuberculosis.
 Dr. Geo. Douglas Head, Minneapolis.
 d. The Anti-Tuberculosis Committee of the Associated Charities of Minneapolis.
 Dr. John G. Cross, Minneapolis.

 Discussion on Dr. H. M. Bracken's paper by Dr. D. D. Murray, Duluth, and Dr. Thos. S. Roberts, Minneapolis.

 Discussion on Dr. H. L. Taylor's paper by Dr. Chas. L. Greene, St. Paul.

 Discussion on Dr. Geo. Douglas Head's paper by Dr. G. S. Wattam, Warren.

 Discussion on Dr. J. G. Cross' paper by Dr. J. L. Camp, Brainerd.
3. Syphilis of the Liver, Dr. Archibald MacLaren, St. Paul.
 Discussion opened by Dr. C. H. Mayo, Rochester.
4. Eye-Strain, Dr. E. J. Brown, Minneapolis.
 Discussion by Dr. Arthur Sweeney, Dr. Haldor Sneve, and Dr. C. E. Riggs, St. Paul, and Dr. W. A. Jones, Minneapolis.
5. The Accurate Determination of Errors of Refraction, without Mydriatics, by Means of Astigmatic Charts, Dr. Chas. N. Spratt, Minneapolis.
 Discussion opened by Dr. J. H. James, Mankato.
6. More Practical Methods in Medical Instruction, Dr. F. F. Wesbrook, Minneapolis.
 Discussion opened by Dr. W. J. Mayo, Rochester.
7. Intestinal Perforation in Typhoid Fever, with Report of Cases, Dr. W. Courtney, Brainerd.
 Discussion by Dr. J. T. Rogers, St. Paul, and Dr. Knut Hoegh, Minneapolis.
8. The Present Stage of Our Knowledge Concerning the Therapeutic Value of the X-Ray, Dr. Burnside Foster, St. Paul.
 Discussion opened by Dr. H. S. Plummer, Rochester, and Dr. J. Clark Stewart, Minneapolis.

9. The State Board of Medical Examiners—A Criticism, Dr. Arthur Sweeney, St. Paul.
Discussion by Dr. William Davis, St. Paul, and Dr. Burnside Foster, St. Paul.
10. Diaphragmatic Hernia, with Report of a Case, Dr. Warren A. Dennis, St. Paul.
Discussion opened by Dr. Wm. H. Magie, Duluth.

THURSDAY, JUNE 1ST, 8 P. M.

1. When Not to Operate in Appendicitis, Dr. J. E. Moore, Minneapolis.
Discussion opened by Dr. J. B. McGaughey, Winona; Dr. C. W. More, Eveleth, and Dr. D. C. Rood, Hibbing.
2. On the Best Form of Incision, in the Extraction of Cataract, Dr. Cornelius Williams, St. Paul.
Discussion opened by Dr. H. Collins, Duluth.
3. A Case of Typhoid Fever with Some Comments on its Relational Pathology, Dr. H. A. Tomlinson, St. Peter.
Discussion by Dr. S. M. White, Minneapolis, and Dr. J. M. Robinson, Duluth.
4. Pneumonia Complicating Surgical Operations, Dr. J. L. Rothrock, St. Paul.
Discussion by Dr. H. M. Bracken, Minneapolis, and A. E. Spalding, Luverne.
5. Septic Intoxication, Dr. C. O. Cooley, Madelia.
Discussion by Dr. C. L. Greene, St. Paul; Dr. Thos. S. Roberts, Minneapolis, and Dr. J. T. Christison, St. Paul.

FRIDAY, JUNE 2ND, 9 A. M.

1. Treatment of Fracture of the Patella by Operation, Dr. C. A. Stewart, Duluth.
Discussion by Dr. H. M. Workman, Tracy; Dr. C. A. Wheaton, St. Paul, and Dr. Geo. G. Eitel, Minneapolis.
2. Common Sources of Error in the Diagnosis of Heart Lesion, Dr. Charles L. Greene, St. Paul.
Discussion by Dr. J. W. Bell, Minneapolis; Dr. A. W. Stinchfield, Rochester, and Dr. Geo. D. Head, Minneapolis.
3. Compound Fractures, Dr. E. A. Hensel, Alexandria.
Discussion opened by Dr. J. A. Quinn, St. Paul; Dr. J. W. Little, Minneapolis.
4. The Physiologic Chemistry of the Urine in Relation to Certain Diagnostic Values, Dr. R. O. Beard, Minneapolis.
Discussion by Dr. H. A. Tomlinson, St. Peter, and Dr. E. Boeckmann, St. Paul.
5. Embolus Following Surgical Procedures, Dr. C. A. Baker, Fergus Falls.
Discussion opened by Dr. A. E. Spalding, Luverne, and Dr. F. A. Dunsmoor, Minneapolis.
6. The Surgical Uses of Carbolic Acid, Dr. J. Clark Stewart, Minneapolis.
Discussion by Dr. H. J. O'Brien, St. Paul; Dr. D. B. Pritchard, Winona, and Dr. Arnold Schwyzer, St. Paul.

FRIDAY, JUNE 2ND, 1:30 P. M.

1. Oration on Medicine, Speaker's name not yet announced.
2. The Etiological Relationship Between Ulcer and Cancer of the Stomach, Dr. Christopher Graham, Rochester.
Discussion by Dr. J. Clark Stewart, Minneapolis; Drs. A. R. Colvin, J. L. Rothrock and Arnold Schwyzer, St. Paul.
3. Extirpation of the Faucial Tonsil: Technique of the Operation. A Discussion upon the Removal of the Entire Tonsil in place of Tonsillotomy, Dr. Frank C. Todd, Minneapolis.
Discussion opened by Dr. Schadle, St. Paul.
4. Some of the Causes of Painful Menstruation in Young Girls—Their Diagnosis and Treatment, Dr. Helen Hughes, Mankato.
Discussion opened by Dr. H. P. Ritchie, St. Paul, and Dr. B. J. Merrill, Stillwater.
5. Strangulated Hernia, with Report of Three Cases of Interstitial Inguinal Hernia, Dr. H. Holte, Crookston.
Discussion by Dr. A. E. Benjamin, Minneapolis; Dr. W. Courtney, Brainerd, and Dr. E. Boeckmann, St. Paul.
6. Dermoid Tumors of the Pelvis, with Report of Cases, Dr. A. E. Benjamin, Minneapolis.
Discussion by Dr. R. C. Dugan, Eyota, and Dr. J. E. Moore, Minneapolis.
7. Notes on Empyema with Report of Three Cases, Dr. F. G. Landeen, Stillwater.
Discussion opened by Dr. H. E. Conley, Cannon Falls.

NEWS ITEMS

Dr. Christian Jelstrup has located in Vining.

Dr. S. D. Sour, Hamline, '91, has moved to Lismore.

Dr. G. C. Hoff, of Zumbrota, has moved to Richville.

Dr. T. H. Miller, of Maiden Rock, Wis., has moved to La Crosse, Wis.

Dr. L. O. Kron, Hamline, '01, has moved from Enderlin, N. D., to Detroit City.

Dr. F. G. Swedenberg, of Red Wing, is going to Europe for a course of study.

Dr. W. Robertson, a graduate of Trinity, Ontario, has located at Omemee, N. D.

Dr. J. G. Johns, of Goodrich, N. D., has returned from his extended vacation in the South.

Dr. W. C. VanDamme, of Minneapolis, was convicted in a Minneapolis court last month of performing an abortion.

Drs. Karn and Bolsta, of Ortonville, have started a movement for a hospital. The building complete will cost about $10,000.

Dr. S. D. Carney, who has been for some years associated with Dr. Schofield at Parkston, S. D., has decided to locate in Montana, probably at Butte.

Dr. C. I. Rollefson, of Chicago, has begun practice at Portal, N. D. Dr. Rollefson spent a year in the Norwegian Deaconess' Hospital of Chicago.

St. Francis Hospital at Campbell will be dedicated on the 3d instant, and a general invitation to the people of surrounding towns has been extended.

Warren is now assured of a hospital, as several gentlemen have headed the subscription list with amounts large enough to guarantee the success of the movement.

Dr. J. P. Flynn, of Madelia, will soon move to Minneapolis. Dr. Flynn is a graduate of Rush, and he will receive a hearty welcome by the medical men of this city.

The supreme court of South Dakota has sustained a verdict obtained by the State Board of Medical Examiners against M. F. Yegge for using the prefix "Dr." in an advertisement.

The city physician of Sioux City, Iowa, has notified the physicians of that city that death certificates must always state the fact when death follows an operation, and that to name the disease is not sufficient.

Dr. Louis Gotthelf, of Parker, S. D., died last month at the age of 85. Dr. Gotthelf was a graduate of the University of Berlin. Shortly after the Civil War, in which he served, he practiced in Minnesota. He went to South Dakota in 1888.

The Barnes and Griggs County Medical Society was organized at Valley City, N. D., last month, with the following officers: President, Dr. L. Platou, Valley City; vice-president, Dr. Pray, Valley City; secretary, Dr. C. L. Brimi, Cooperstown.

Dr. C. B. Lenont, of the Lenont Hospital, Virginia, met with a very severe and dangerous accident a few days ago. While going to the Leonard mine to care for an injured workman, his horse ran away and dragged him several blocks. He will lose one eye, and it is feared his other injuries are very serious.

The following doctors received certificates to practice in North Dakota at the April examinations: P. G. Kerney, Bismarck; A. L. Doe, Fargo; Gilbert L. Gosslee, Tracy, Minn.; A. J. Heimarck, Finley; Carl Arthur, Klemer; E. S. Swartout, Sykeston; Herbert D. Edmonds; W. C. Nolte, Dazey; John A. Duncan, Church's Ferry; and J. D. Clark, Harvey.

The Big Stone District Medical Society, composed of physicians from Grant, Roberts, and Day counties of South Dakota, was organized last month at Milbank, S. D. The following were elected officers for the current year: President, Dr. E. V. Bobb, of Sisseton; vice-president, Dr. A. A. Sorrenson, of Summit; secretary and treasurer, Dr. W. J. Ferguson, of Milbank.

PHYSICIAN'S BUGGY FOR SALE VERY CHEAP

A Minneapolis physician offers for sale at about one-third its cost a rubber-tired stanhope, with full leather top. Has been used on paved streets for two seasons, and is in almost perfect condition. Address D. E., care of NORTHWESTERN LANCET, Minneapolis.

FOR SALE VERY CHEAPLY

The very complete line of the best and latest electrical and *x*-ray apparatus and new books upon the subject, besides a line of surgical instruments, are for sale, as a whole or separately, by the estate of the late Dr. W. P. Spring. The offices occupied by him at 328 Nicollet Ave. are also for rent at a low price. Address E. K. Fairchild, 40 Minn. Loan and Trust Building, Minneapolis.

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MORTALITY, DISABILITY, AND PERMANENCY OF CURE IN SURGERY*

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Surgeon to St. Mary's Hospital.

ROCHESTER.

A very ordinary surgeon, by means of selection of cases, aseptic care, and the kindness of nature, may have a low death-rate, and yet benefit his patients but little. The question of mortality is one of the most important in surgery, and yet there is no rule concerning its method of computation. A study of mortality should be based on some definite plan to render reports and statistics of value to others than those who make them.

Hospital reports seldom present to the reader more than a general estimate of the amount of work done by the individual operator, and may, to some extent, add to the respect paid to his opinion by those able to judge. However computed, the mortality-rate served its purpose, as far as the surgeon is concerned, in giving an approximate rate which is liable to a certain amount of fluctuation, due frequently to uncontrollable circumstances. We once performed a consecutive series of 179 abdominal operations of all kinds without a death; in the one hundred and fifty-sixth case the patient operated on died, yet such a statement, unqualified, would be of no value to other surgeons, as there were five deaths in the next twenty cases.

Some operators claim that if the patient dies from the operation it should be counted, but if he survives the operation for a time, although it fails to give relief, and he dies from the disease or complications, it should not be charged to the surgical work. This method allows of a large latitude for the surgeon unconsciously to favor or to discredit some particular operation, according to his prejudice. A well-known surgeon believes that if an individual dies within fourteen days after an operation from any cause the death should be attributed to the operation, but after that time it is a question to be settled by the judgment of the operator.

In our work we have taken the view of the layman, that if the patient goes into the hospital alive and comes out dead, the death resulted from, or in spite of, the operation, charging as a death from operation every patient who dies in the institution without regard to cause of death or the time elapsing between the operation and the fatal issue, some patients dying as long as three months after from disease or accidental cause, such as apoplexia, pneumonia, nephritis, heart disease, pulmonary embolism, etc.

The greatest reduction in mortality has come through aseptic and antiseptic methods, which have been reduced to such simple principles that they are within reach of all. This has been the means of developing skilled surgeons, who still further reduced the death-rate by an intelligent selection of cases, reduction of operative shock, and careful post-operative care. There is unquestionably a proper time for surgical intervention, and the failure to grasp the opportunity at the favorable moment is the cause of the greater part of the mortality, besides increasing the period of disability and reducing the number of cures. With the growing intelligence of the profession there is much less delay, owing to their advice, than formerly; in fact, there are at present few physicians watching tumors of the breast

*President's address before the Western Surgical and Gynecological Association at Milwaukee, Wis., 1904.

to see if they are malignant before advising removal. This is also true of cancer in other regions, and to-day cancer is classed among curable diseases when operated on early, while still local, and without metastasis. We might also say that only cancers of the stomach are still retained in the medical wards until starvation, stasis, and the failure of nutrient enemata demand surgical intervention at the most unfavorable moment.

The surgeon has not been blameless in inducing the public to delay operations, not directly, but indirectly, by operating on the hopeless cases of cancer in which the inoperable condition could be proved, and in which incomplete operation is followed by more rapid growth. The continued disability and the inevitable death become necessarily associated in the minds of laymen with the operation, deterring others from seeking early surgical relief, and inducing them to look for some religious, irregular medical, or quack method of cure.

STATISTICS

In appendicitis the contrast between the mortality in cases operated on at a favorable period and the reverse (including the operations of necessity), has taught even the layman not to trust too much or too often to the kindness of nature. The mortality, therefore, has been reduced to a very low point. During the past year there were operated on in St. Mary's Hospital 516 cases of appendicitis. Of these there were 147 acute cases, with 4 deaths; this includes a number of patients having diffuse peritonitis requiring general abdominal drainage. There were 362 chronic or interval operations and 10 tuberculous cases, with no deaths. This does not include 244 appendectomies made incidental to other abdominal operations, as where more than one procedure is accomplished through a single incision only the major is counted. Five years ago such results could not have been obtained, as we did not have the co-operation of the public. In the stomach operations during this year there were 106 gastro-enterostomies, with 8 deaths, 7½ per cent, most of these deaths being due to advanced cancer, while in 13 pylorectomies and partial gastrectomies there were no deaths, owing to the early stage in which the disease was attacked. Abdominal hysterectomies gave a death-rate of 5 per cent in 101 cases, an increase of 2 per cent over former years, due to a greater effort to eradicate malignant disease, immediate results being subordinated to permanent. In no class of work did the low mortality of early operation contrast more favorably with the unavoidable death-rate, due to delayed surgery, than in gall-stone disease. In a recent review of the mortality of 1,000 operations up to Dec. 1, 1904, for gall-stone disease by W. J. Mayo and myself, we showed an average death-rate of 5 per cent in the hospital, 960 for benign disease with a mortality of 4.2 per cent. The total list does not include 101 cholecystostomies and 44 cholecystectomies in connection with common-duct operations. There were 673 cases of cholecystostomies, with a mortality of 2.4 per cent. This group includes most of the acute infections. Cholecystectomy was done 186 times with a mortality of 4.3 per cent. This operation was employed for special indications, such as cystic-duct operation, thick-walled gall-bladders, suspicion of malignancy, and cholecystitis without stones. There were 137 operations for stone in the common duct, with a mortality of 11 per cent,—7 per cent from operation and 4 per cent from secondary complications after more than three weeks. Those patients operated on during the quiescent period with little jaundice and slight infection all recovered; four patients with extreme icterus and with subcutaneous hemorrhages all died; four patients with complete obstruction of the common and hepatic ducts which were filled with clear fluid and no bile all died. There were 40 cases of malignant disease, with a mortality of 22.5 per cent. In contrasting these mortalities we must constantly remind ourselves that in simple uncomplicated gall-stone disease the death-rate in 416 cases was less than .5 per cent, and that practically all the complicated cases were at one time in this stage when a safe operation could have been done. Of the cases of malignant disease practically all showed that gall-stones had played the part of a chronic irritant.

Operations in the upper abdomen, involving the stomach, liver, and pancreas, involve a higher mortality than those of the lower abdomen, as it is near the danger zone of active absorption,

and adhesions are more permanent from lessened peristalsis.

The cases of shock we have seen following operations have been due to loss of blood, to handling the small bowel, and to traction on abdominal viscera and large nerves.

Laboratory substitutes for blood were rarely employed, as, while temporary improvement was noted, the operation necessary involved its own risks and disadvantages. The almost unknown chemistry of the living cell secures the best preparation of solutions to fit them to mix with the blood; and to cause the least harm, therefore, when deemed necessary, as in starvation and shock, we use the subcutaneous infusion or the slow rectal salt enema, without pressure, after the method of J. B. Murphy.

DISABILITY

For his own convenience, or to save himself a few minutes' time, a surgeon has no right to add to the temporary disability of a patient by making an unnecessarily long incision. An extensive incision must be justified by its increased primary safety or by increased certainty of cure. Practically speaking, each inch of abdominal incision calls for about three or four extra days in bed. The question of detention from business is now receiving considerable attention in this country, so that it creates a most unfavorable impression when, through accident or unpreventable causes, a patient must be retained unusually long in the hospital. In St. Mary's Hospital we have materially reduced the time of detention of patients, as compared with the same operations in the developing days of surgery. Considering only six or eight years ago, we have during this year reduced this time to such an extent that it represents a gain equal to the board, care, nursing, and disability of one person for approximately over thirty years. For instance, in hernias (of which there were 206 during 1904) in the early days these patients were in bed four weeks, and even six years ago, three weeks. This is now reduced to thirteen days in favorable cases. Stomach and gall-bladder cases are confined to bed from twelve to fourteen days; formerly this time was from eighteen to twenty-five days. In 169 stomach operations with recovery this year a saving was made of about 200 weeks. To almost the same extent a saving of time has been obtained in all classes of operation. During the year in appendicitis work it was most marked. Formerly these operations in non-drainage cases detained patients three weeks; now the patients are up in eight days and home in ten, a saving during the year of about fourteen years. In considering the subject we must not be intimidated by those who retain their cases an excessive length of time, nor be rendered reckless by those who, at the other extreme, urge the mobility of abdominal cases the next day after operation.

The operative incision rarely should be employed for the drainage of abdominal sepsis. One or more separate punctures ought to be made for this purpose at the most favorable situation, and the original incision closed, thereby avoiding hernia liability, and shortening convalescence.

In our practice every effort is made to secure dry wounds. Temporary drainage is employed in incisions through fat structures where the lymph absorbents are often unequal to the task of acute drainage. Other operations which do not remove lymph nodes are not drained unless infected. All operations in which glands are removed are drained. Irrigation is not employed in septic cavities for the removal of fluids derived from the tissues of the body, such as empyema. Irrigation is at times employed for the removal of foreign materials, such as escape from perforation of the stomach or intestine. Severe peritoneal sepsis, such as occurs from a ruptured appendix, if diffuse, is treated by the exaggerated Fowler position (sitting posture) with large drains in the pelvis. The results are remarkably good in this class of cases which was formerly so fatal.

PERMANENCY OF CURE

The bugbear of surgery is malignancy; the bulk of mortality, recurrence, and disfigurement is from the cancer. A poor surgeon, as far as operative skill or dexterity is concerned, may be a great surgeon from the standpoint of radical cure. The only way that regular medicine can defeat methods and schools of quackery is to study them, and to prove by results that there are better methods. Efforts at legislation merely

advertise such irregular methods, too often to our disadvantage, by placing those who practice them in the light of being persecuted. The principal progress made in the study of cancer has been recognition of its mode of extension and of the cause of death. Until this was manifest in many instances we could claim but little over the man with the cancer paste except shortened convalescence.

Investigation into that much-neglected portion of anatomy, the lymphatic system, has finally placed the surgery of cancer on a scientific footing. Possibly little reduction has been made in primary mortality, but a great improvement in permanent results has been effected.

In considering the general subject of cancer, it has been our experience that age, as a rule, makes a great difference in the rapidity of the progress of the disease, as well as in the prospect of cure; cancer in the young being early disseminated by the activity of the lymph system, while in the old, with atrophic lymphatics, a long time, the disease may remain essentially inactive and local. Other conditions being the same, each additional decade of life gives improved permanent results. Early operation, with the removal of the glands through which the drainage is effected, gives a high percentage of cure. Today the first thought of the surgeon who makes a diagnosis of cancer is in regard to the adjacent lymphatics. Few cancers destroy life in their original location excepting mechanically; it is principally the secondaries which kill. The great danger, then, is through the lymphatic system in which secondary growths develop and through which the blood stream is invaded. If cancer does not ordinarily cause death in its primary situation the thorough removal of the lymph glands draining the area is of as much importance as removal of the disease itself.

In the alimentary tract the colon is one of the more favorable locations for removal of cancer without recurrence, as the lymphatics of the colon are much less active than those of the small bowel. Fortunately, malignant disease occurs in the proportion of about 17 in the colon to 1 in the small intestine. Approximately about one-half of the deaths from colonic cancer occur from obstruction and perforation before the glands are involved.

A radical change has taken place in the methods of attacking cancers of the rectum, an abdominal incision being first made, and, if the case is inoperable from a curative standpoint by reason of the extension of the original growth or secondaries, a colostomy is performed if there be obstruction. In the curable cases a combined operation is performed from above and below with removal of all the perirectal tissue, fat, glands, and fascia with the rectum.

The primary mortality in cancer of the breast need hardly be considered. Of course, there will be unexpected deaths from pneumonia, apoplexy, pulmonary embolism, or some other unavoidable complication. To the removal of the gland areas belongs the credit for excellent results now obtained. The muscle removal is merely incidental to the thorough operation on the absorbents.

It is difficult to estimate the primary operative mortality of brain injury, as in most cases the operation is partly associated with the injury. Such operations made early are remarkably successful, both in low mortality and in freedom from secondary symptoms (epilepsy, etc.).

The brain, from its functions and anatomic structure, has but limited ability for repair, therefore what is to be accomplished should be accomplished early, before secondary morbid conditions are established. Operations for chronic conditions of the cerebrum are only removed from pessimism by the low mortality and wonderful results in occasional cases.

OLIVE OIL

Dr. H. H. Rutherford, medical department United States army, has given some attention to the therapy of olive oil in chronic dysentery. According to his statements experimentation has shown that olive oil increases the flow of watery bile, which acts as an intestinal antiseptic. In cases of dysentery, where olive oil has been administered, the amount of bile in the feces has been increased; the number of bowel movements have decreased and improved in character; there has been a gradual cessation of the signs of fomentation in the intestinal tract, along with subsidence of pain and tenderness, etc.

G. Parker Dillon, in the same periodical, states it as his opinion that the value of olive oil lies in the fact that it is an easily assimilated food.—American Medicine.

GENERAL CONSIDERATIONS IN THE TREATMENT OF THE EARLIER STAGES OF PULMONARY TUBERCULOSIS*

By L. A. Nippert, M. D.

Clinical Professor of Medicine, University of Minnesota

MINNEAPOLIS

There can be no rational treatment without diagnosis, and no scientific estimation of the results of treatment is possible without a knowledge of the natural history of the disease in question.

Pulmonary tuberculosis, in its acutest form, may run its course in six weeks; in its chronic manifestations it may extend over a period of twenty years or more. The disregard of the well-known tendency of this disease to become quiescent for months and even years in advanced stages, and uninfluenced by therapeutic measures has been the source of most extravagant claims of supposed cures, whose only features were those of novelty, often absurdity.

To the hygienic management and the symptomatic medication employed twenty years ago, the discovery, by Dr. Robert Koch, of the bacillus tuberculosis as the cause of consumption, has added two further indications, namely, prophylaxis and specific therapeutics. No essay, however short, on treatment of tuberculosis would be complete without reference to prophylaxis. The microörganism is contained in the sputum and sometimes in pus from tubercular deposits and abscesses. The destruction of the germ by bactericidal agencies in expectoration and secretions is therefore imperative. The direct spray from the patient's mouth during coughing, even if there be no actual spitting, must be avoided, as it has been proven to contain the bacilli. This fact should be particularly impressed on tubercular mothers caring for infants. Tubercular deposits in glands, mucous membranes, or bones, if accessible, must be removed. During sleeping hours the patient should be isolated. Those who through an inherited weakness or through previous exposure are likely to develop the disease, should be enjoined to pay special attention to the rules of general hygiene, with fresh air, sunshine, and ample nutrition.

*Read before the Minneapolis Medical Club, April, 1905.

With the recognition of the cause, it was but natural that attempts should have been made to destroy the germ in its habitat. The methods employed to secure this result read like the exploits of Don Quixote. Germicides by mouth, sulphuretted hydrogen by rectum, inhalations of innumerable combinations of substances found to kill the bacillus outside of the body, intratracheal sprays, hot-air inflations of the lungs, hypodermic injections of extract of sheep's glands, and iodine and gold, of silver nitrate over the pneumogastric, inuction with extract of the remains of antediluvian fish, intravenous injection of formaldehyde, electric light, *x*-ray, and radium—all these and hundreds of others have been reported to have given very satisfactory results. Again it was given to Dr. Koch to point out the way to a rational specific treatment by making use of the products of the tubercle bacillus,—tuberculin.

When fifteen years ago this new remedy, against the wishes and directions of its discoverer, was heralded to the world, not only the laity but the medical profession went wild over its alleged cures. The medical journals were full of reports of wonderful results after a few months of treatment. It seemed as if the natural course of the disease had been forgotten. Every change for the better was attributed to tuberculin by its enthusiastic employers. It was not long before unfavorable results, probably due to excessive dosage, were reported, and in a comparatively short time many of its ardent advocates laid it aside as dangerous and as not fulfilling their hopes. Others, after extensive experience and careful, close observation for years, believe that in tuberculin we have a powerful factor to promote the cure of the disease. Some prefer the products of the culture of the bacillus, the old tuberculin, beginning with a dose of 1-10 of a milligramme, increasing it to a point where no further reaction is obtainable; others use the watery extract of the triturated

bacilli, the tuberculin R. In advanced stages the latter preparation is preferable.

The writer has no personal experience with the therapeutic use of either preparation. It must be remembered that the majority of men using it freely have the advantage of a well conducted sanatorium to assist in the general treatment of their patients, and that its use is restricted to afebrile cases, which are apt to do well under other forms of treatment. The length of time, the expense, and the close supervision required, together with the doubts in the minds of a large proportion of the profession as to the final beneficial results, have confined the tuberculin treatment to sanatoria and hospitals.

The striking success of antitoxin therapeutics in diphtheria has encouraged investigation and experiments in this field of treatment. Barring a few enthusiastic investigators, who believe they have seen marked results from the serum of the horse, the turtle, and the blind adder, the profession at large has not accepted their deductions as conclusive.

Surgery has offered her helping hand by proposing thoractomy to disinfect tubercular foci, to collapse the affected lung by admitting gases into the pleural cavity, and to resect the sternocostal articulation of the first rib to produce pseudo-arthrosis, in order to remove the sulcus in the apex of the lung which is supposed to furnish a nidus for the invading bacillus.

As our offensive methods of specific treatment by tuberculin are still sub judice, the serum treatment in its experimental stage, all other specifics utter failures, surgery erratic and unsustained, there remains but the defensive attitude, not passive but active, in our endeavors to assist nature by fortifying our patient against the progress of the disease. To do so we must not only ascertain, if possible, the exact state of the localized process, but, what is more necessary, we must "size up the individual," study his mental attitude and disposition, estimate his physical make-up, learn his personal habits and social ties, and, last but not least, know his financial limitations.

Disposition and mental attitude are of greatest importance. If our client meet us with confidence and willingness to do whatever is advised, half the battle is won. His faith inspires him with courage and hope. His cheerful hope stimulates us to renewed activity to help him realize his expectations. Not so with him who, through the merciful but disastrous condition of mind of the tuberculous, refuses to believe himself sick, or him who, despondent and without courage, makes no effort, but surrenders with oriental fatalism to his kismet. His physical make-up will assist us to determine the course he should pursue,—roughing it in the northern woods, western prairies, or southern mesas; or of being nursed to health under the parental roof of a sanatorium. His social habits may need an absolute change, his personal inclination strictest restraint, and his financial limitations must receive our most careful consideration. What of the majority of the tuberculous, the rank and file, whose means are limited, whose existence depends on their daily toil and labor? Should we lead them upon Mount Nebo, and show them the promised land which they may never enter? No, it would be very barbarous to do so, but in their interest we should by our efforts induce the government to provide a place where they, too, will be given an opportunity to be restored and to become self-sustaining. This idea has found expression in the establishment of state sanatoria, not only for the care but for the *cure* of the tuberculous.

It is not always possible to determine the location and the extent of the tubercular process in its incipient stage; that is, before its disintegration. The absence of tubercle bacilli in the sputum is not of negative importance. In the majority of cases a positive diagnosis can be made, based on the history, on progressive emaciation without other cause, anemia, cough, hemoptysis, afternoon rise of temperature, a rapid pulse of low tension, and a localized dry râle or slight friction, particularly if found in the apex. In the absence of physical signs and of fever, the diagnostic use of a small dose of tuberculin will often clear the diagnosis. A patient presenting the above-named symptoms has pulmonary tuberculosis, and as the first step for successful management, *he should be told the truth.*

How to communicate the facts to him without alarming him unnecessarily, and yet sufficiently

to assure his co-operation, will test the ingenuity and tact of the medical adviser. The patient should know, to his own interest and to that of those about him, that he has incipient tuberculosis, which is curable, but which, if neglected, is likely to pass into pulmonary consumption. Having secured his intelligent co-operation, we must impress him with the necessity of (1) preventing auto-infection by not swallowing sputum or allowing it to dry; (2) breathing pure air day and night; (3) improving and stimulating his nutrition by proper diet; (4) avoiding waste of tissue and strength; (5) promoting expansion of thorax and a healthy state of the skin, the thermostat of the body, by physical exercises and hydropathy.

To teach him to live up to these rules he should be sent to the primary school for the tuberculous, the sanatorium. After three or four months' care and instruction, he will know the science of taking care of the greatest good on earth, his health, so thoroughly that he will not be apt to neglect its lessons in the future. If his circumstances do not permit him to go to this school, he should be under the constant supervision and care of a tutor,' his physician. He will instruct him how to avoid auto-infection and the spreading of the infection to others; and he should direct the quantity and quality of the food to be taken, securing the highest amount of nutrition without producing indigestion by overloading the digestive capacities. Open-air exercise should be carefully regulated according to the strength of the individual. Patients with a temperature above 99° should remain quiet. Many of these by indiscriminate advice to go out in the air and exercise have been walked to death. As much as physical overexertion is to be avoided, mental strain should be banished. A game of chess before retiring is apt to raise the temperature, and cause a restless night. Cleanliness of the skin is to be promoted by frequent bathing. The stimulating effect of cold water upon the respiratory organs can be increased by addition of alcohol or salt. Physical exercise to promote expansion of the chest is advisable within limits.

One of the lasting impressions of the writer's boyhood days is the remembrance of one of his playmates, the young son of a farmer, who, pale and emaciated, lying between two enormous feather beds in a small room, the windows of which were tightly closed, to prevent cold, sweated his life away. He was the first victim of pulmonary tuberculosis in this apparently sturdy family. Within ten years four of his brothers and sisters followed him in the same path. In protest against this treatment arose within fifteen miles of this village, at the town of Falkenstein, the now world-famous sanatorium, one of the first to advocate the open-air treatment, summer and winter, rain or shine.

Through the perseverance of its founder, Dr. Dettweiler, overcoming all opposition by demonstrating his results, the fresh-air treatment is to-day accepted as the treatment *par excellence*. Almost invariably as soon as the patient is informed of the character of his illness, and of the necessity of supplying his lungs with fresh air, day and night, his first question will be, "Shall I change climate, and where shall I go?" With eyes sunken, yet sparkling with the gleam of hope; his cheeks crimson with the hectic flush; his breast heaving for air; emaciated to a shadow by the ravages of an actively advancing destruction of air-cells—in this condition many a one is advised to seek another climate. And what is the result? To arrive after an exhausting travel of hundreds of miles among unsympathetic strangers, in a climate with unlooked-for variations, housed up in dwellings poorly ventilated, with no trusted medical adviser, often with depressing fear of expense and overwhelming homesickness; and to discover that the last hopes are shattered and that his closing days are not to be comforted by soothing, though lowly, home surroundings.

From your own experience, presumably many of you will concede that this is not a picture of fancy, but of facts, which, unfortunately, has many times come under the writer's observation.

The condemnable routine practice of sending patients to other climates because they are tubercular, is opposed by the other extreme with the axiom that all tuberculous do best at home. Before recommending climatic change, some things are of utmost importance:

1. We should carefully note the extent and activity of the local processes and associated organic affections.

2. We should take into account the general considerations mentioned before.

3. We should be acquainted with the advantages and disadvantages of other climates at different seasons, and, finally, we should know and make use of the opportunities of our home climate, which in Minnesota is peculiarly favorable in the treatment of the tuberculous.

Patients with acute tuberculosis, or those far advanced in its chronic form and those with active hemorrhages, should remain at home.

Time does not permit a discussion of the different altitudes of benefit in the treatment of phthisis. They are as varied as the manifestations of the disease itself. The ocean, the desert, the highlands and plateaus, the mountains and sheltered ravines,—all have their advocates. As a general rule the greatest amount of sunshine without excessive heat, and an atmosphere comparatively dry and free from dust with a minimum of sudden changes, with forest protection from harsh and strong winds, and medium altitude, offer the best opportunities for out-of-door life.

All these conditions are found in the pine-protected tracts of our state, with but one drawback, the intense cold of our winter months, although it is remarkable how even those who have been accustomed to indoor life will, in a short time, learn to enjoy the pure exhilarating air and the snow-reflected sunshine of our Minnesota winters. A patient of the writer who spent one of our coldest winters three years ago in a tent in the woods within seventy miles of this city, the thermometer registering at times from 30° to 35° below zero, stated that he felt best when out on the frozen lake with the air blowing about him.

By sufficient covering we can protect ourselves from the lowest temperatures, but from excessive, wilting heat there is no escape. There is, however, another obstacle in the way of reaping the benefit of our climatic advantage, and that is the absence of proper accommodations. With growing appreciation of the healthfulness of Minnesota, private sanatoria, of which several are about to be established, will fill a much-needed want. The state also has made a beginning in the right direction, so that it will not be long before the majority of our tuberculous can be cared for within easy distance from home. That the small minority of consumptives, those who are not hampered by pecuniary limitations, need not be restricted to home climate is self-evident.

In conclusion of this part of the subject, let me repeat Dr. Burney Yeos' summary given in the transactions of the British Congress on Tuberculosis, as quoted by Dr. Lindsay: "What the tubercular patient needs is a combination of climate and sanatorium treatment, for the patient, if left to his own devices, may make bad use of a good climate, while, with skillful guidance in a sanatorium, he may make good use of a bad one. Care without climate is better than climate without care."

Drugs occupy an important place as accessories in stimulating and aiding appetite and digestion by supplying deficient gastric and intestinal fluids and ferments. To secure good nutrition, regulation of the bowels is a necessity. Iron in some form increases hemoglobin, and therefore the oxygen-carrying power of the blood.

The demands for relief of pain, cough, night-sweats, and pyrexia are not usually urgent in the incipient stage. Counter-irritants, such as mustard, dry cups, iodine, or croton oil, will usually subdue pleuritic pain. Cough can often be controlled by voluntary effort, if annoying, infusions of marsh-mallow or flax seed, chloroform, belladonna, cannabis indica, or hydrocyanic acid are effective; and only if excessive and interfering with night rest, heroin and codeine as the least objectionable of anodynes should be resorted to. Creosote and its derivatives are frequently most useful in ameliorating cough, and, if carefully administered, they rather stimulate than interfere with digestion.

In addition to sponge baths, small doses of coal-tar preparations, as antipyrin, acetanilid, and phenacetin combined with quinine and strychnia, meet all requirements for relief of fever as a symptom. Whiskey or brandy in milk at bedtime does more to check excessive night sweats than any drug known to the writer, except atropine.

Hemoptysis, as an early and alarming symptom, requires treatment by rest of mind and body, obtained by liberal but judicious use of prepa-

rations of opium, morphine being preferred. No other drugs need to be given.

In prescribing drugs our patients should distinctly understand that these are but minor accessories to successful therapeutics, and, while relieving symptoms, do not cure directly. Besides their physical effect they serve the more important purpose of reminding the patient daily that he is under medical care, and they encourage him to follow the hygienic and dietetic instructions given by his physician.

The education of the laity in matters medical has not reached the level of regarding their physicians' advice as important unless supplemented by a visible and somewhat mysterious evidence of his skill and knowledge,—the prescription written in Latin.

THE IMPORTANCE OF NASAL BREATHING IN EXERCISE*

By W. N. Porteous, M. D.

MINNEAPOLIS

Self-preservation is the primary law of life; and increasing longevity is the evidence of obedience to that law. It has taken the human race a long time to learn that the prevention of disease is a better form of obedience than the attempt at its cure; but that men are learning that lesson is shown by their readier and more intelligent pursuit of the best means of maintaining the balance of functional activity. Conspicuous among these measures is the increasing resort to physical exercise, in one form or another, by men and women of habitually sedentary life.

The advocates and even the exploiters of systems and methods of training are to be applauded for the stimulus they have afforded to the taste or desire for physical exercise. But as use discovers and develops power, so use frequently discovers functional needs, and uncovers the limitations of power. Men and women unaccustomed to muscular activity who undertake the practice of the gymnasium, the tennis court, the golf field, etc., speedily learn that the first essential of exercise is a good breathing apparatus, and that at the very portals of the air passages, more frequently than at any other point, their capacity for respiration is impaired.

Ordinary respiratory efforts may be accomplished with the ease of habit adjusted to capacity, but as soon as the strain of unusual labor is put upon the human machine the weak spots reveal themselves. In such circumstances as these many persons find themselves under a penalty which is imposed sooner or later upon all house-bred and house-reared creatures,—the penalty of limitation of the range of functional activity. Physical exercise means deeper and more rapid breathing, means increased force and frequency of heart-action, with its resultant rise of blood pressure met and counterbalanced by vasodilatation in the pulmonary, the bronchial, and the nasopharyngeal areas. These results are primarily of chemical causation, although they are more or less mechanical in their operation. Of so common occurrence are they that, as with many other habitual experiences, they are accepted without inquiry and without adequate understanding of cause. Their explanation is to be found in the fact that exercise increases the output of paralactic acid and of carbon dioxide from the muscular tissues, which, readily diffusible as they are, serve as stimuli, reflexly exciting the respiratory and cardio-accelerator centres. At the same time muscular contraction and pulmonary distension alike increase the return flow of blood to both sides of the heart, in consequence of which the force of its systole is increased and blood pressure rises. The co-incident vasodilatation leads to an engorgement of the capillaries of the air passages which is most marked in the broad areas and redundant submucosa of the nares. The turbinates exhibit this turgescence in a major degree. If the nasal chambers have been pre-

*Read before the Hennepin County Medical Society, April 3, 1905.

viously narrowed they tend thus to become blocked, the required increased volume of air passes with difficulty, an obstructive nasal dyspnea results, and mouth-breathing is the only possible relief to the emergency.

Of course all degrees of such blockage of the nares are observed, from that which is dependent upon a simple redundancy of the mucous membrane, to that which is marked by a proliferation of new vessels to the further stage of interstitial overgrowth and to the final development of exostoses.

According to the measure of impotency will be the extent of the difficulty experienced under the stress of exaggerated respiration. More or less imperfect ventilation of the air passages, with consequently diminished intake of oxygen and output of carbon dioxide, results. While nutrition in general suffers, that consequence is remote, and its relation difficult to attach, save through the reactive benefit which improved ventilation affords. Much more immediate evils than this are to be traced to the nasal passages, whose functions are impaired. These portals of the respiratory tract perform, in very large part, three important offices in relation to the inspired air: (1) They equalize its temperature; (2) they secure its filtration from gross and bacterial impurities; and (3) they afford to it a certain necessary amount of moisture.

Like many other minor functions, so called, the importance of these offices is not appreciated until they fail or until their abbreviated performance is announced by the exigencies of special need. Compelled to fall back upon the expedient of mouth-breathing, the individual, conscious or unconscious of the cause, is aware of positive distress, and with very good reason.

The equalization of the temperature of the respired air is a matter the consequence of which increases with the climatic extremes and with the necessities of high heat within doors which a northern latitude imposes. Admirably adapted to the task as the nasal passages are by virtue of their labyrinthine form, and their large heat-radiating and heat-conducting surfaces, with their myriads of outward-moving, air-delaying cilliary cells, yet, under the deteriorating influance of frequent, sudden, and wide variations of temperature under the damaging effects of superheated, heavily polluted, and abnormally dried air, they gradually lose this wonderful capacity, —a function well worth the saving. The extent of this function is rarely appreciated. Achenbrodt demonstrated, by means of apparatus especially constructed for the purpose, that air passing in at one nostril and passing out at the other, the pharynx meanwhile being closed, would attain a temperature either by elevation or fall, as the case might be, ranging from 86° F. to 93° F. Greville Macdonald showed that air at a temperature of 140° F. is reduced to 92° F. in passing through the nares alone. Landois states that cold air is raised in the nose to five-ninths of the difference between its original temperature and that of the body.

The nares thus largely equalize the temperature of inspired air, and safeguard from the injury of extremes the deeper air passages. No less vital to the health of the breather is the filtration function of the nasal passages. Again, the form, the extensive surface, the abundant secretion, and the active cilliary bodies are admirably adapted to the task. It needs no argument to prove that gross impurities are removed from the inspired air during its transit through the nose. The organ is self-evidently a scavenger. That is serves as a filter for microorganisms is no less true. St. Clair Thompson and Hewlett demonstrated that from one to two thousand bacteria are removed each hour by the nasal cavity from the inspired air in an ordinary city atmosphere, a number increased oftentimes to fourteen thousand in the atmosphere of the city of London. At the same time they showed that the nares fortunately do not afford a favorable ground for bacterial growth. Hildebrandt proved that the anterior portion, moreover, of the nasal cavity harbors most of these microorganisms, a large number of which, continually propelled outward with the mucoid secretions, are from time to time removed.

The propulsive power of the cilliary bodies upon the normal mucous membrane is indicated by a rate of movement of twenty-five millimetres per minute, and there can be no doubt that this agency is effective, not only in delaying the incoming currents of air, but in combating the progress and securing the expulsion of dust, of bacteria, and of other foreign bodies. In deal-

ing with minute objects, the cilliary action, here as elsewhere, operates through the medium of local secretions.

It is not in this relation alone, but also in the important task of saturating the inspired air with moisture, and thus protecting the deeper respiratory tract from its otherwise parching influence, that the nose normally serves a useful purpose as a moist field. Again, in this regard, its subdivided passage-ways, offering to the air a large extent of surface, suggest their adaptation to this use.

Most powerful factors in attaining this result, are to be recognized in the high vascularity, the broad variations of blood supply through vasomotor control, and the large accommodation of lymph, which the part exhibits. These are, in fact, the essential forces back of its heat-radiating and heat-conducting, as well as its actively secreting, powers, while they afford the conditions necessary to the maintenance of a moist chamber.

While this consideration of the functional uses of the nose emphasizes the importance of the nasal cavity in normal respiration, it affords, at the same time, a key to its frequent disabilities and to the exaggerated consciousness of them which physical exercise develops. The wider the range of physiologic activity, the more apt is the pendulum of function to swing too far. Nasal turgescence—frequent, excessive and prolonged—lays the foundation for those structural changes to which the writer has already alluded, and of which the sufferer becomes uncomfortably aware under respiratory stress.

The attempt at compensation by mouth-breathing completes a vicious circle in which air of unregulated temperature, of unfiltered quality, and of mischievous dryness, plays its damaging part. The very physical exercise which is potentially remedial, becomes constructively mischievous.

Greater care should be taken of the normal nasal cavity. The toilet of the nose should be a matter of habit to those of in-door life and sedentary occupation. The young of urban environment should be taught its practice. Nasal conditions, as a factor in the health of childhood, when disorders are apt to become fixed, should be more carefully considered. Impaired functions of the nares should be dealt with before structural change, as a resultant, has gone too far. Obstructive hypertrophies, alike in the turbinate, the post-pharyngeal and the tonsillar fields, should be conservatively removed to the restoration of the physiological avenue of the inspired air, and to the improvement of nutrition as a whole. Only as the nasal respiratory field is free, will physical exercise serve to re-establish that balance of function which the sedentary need. Obstructed, it constitutes a bar to the full enjoyment of athletic pursuits, which then serve only to exaggerate the disastrous consequences of its functional failure.

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HOSPITAL BULLETIN

ST. BARNABAS HOSPITAL

MINNEAPOLIS

HEMATOMA OF THE RIGHT OVARY

IN THE SERVICE OF DR. G. G. EITEL

REPORTED BY DR. MABEL ULRICH

Mrs. B——, aged 27, was sent to the hospital by her physician with the diagnosis of salpingitis. She complained of a constant pain over the region of the right ovary. She menstruated first at 14, but her periods have always been irregular and painful. Two years ago she gave birth to a child. The labor and puerperium were normal. She has had no miscarriages, and gives no history of any infection. Last December she had a hemorrhage from the vagina which lasted three weeks, and was accompanied by the pain customary with her menses.

The following February she was suddenly seized with intense pain over the region of the

right ovary. She vomited considerably, and her abdomen was greatly distended, but she had no chilly sensations or fever. She was in bed at this time for three weeks, and the diagnosis of her physician was that of ovarian abscess. At the end of this period the "abscess broke, and blood and matter came away." The distension disappeared, and she grew better. The pain, however, persisted, and has remained practically constant until the time when she presented herself at the hospital.

Upon examination she appeared to be rather a chlorotic blond. The region of the right ovary was very tender and difficult for this reason to thoroughly palpate. A mass, however, could be made out.

Operation.—A medium incision was made. The uterus was found to be in a good position. The left tube and ovary were normal. In the region of the right ovary was a rust-colored mass about the size of a goose-egg which had the appearance of an organized blood clot. On section this proved to be a hematoma. It involved the entire ovary, no normal ovarian tissue being macroscopically visible. The tube was normal. The hematoma was removed in the usual manner, and the wound closed. Her recovery has been uneventful.

Dr. Magnus A. Tate, in the American Journal of Obstetrics for May, gives an excellent review of these cases of hematoma which have been reported in the literature. He thinks, however, that the condition is much more common than would be inferred from the number which he found. They have been reported in new-born infants, but the age of their occurrence is usually between 15 and 40. They vary in size from that of a hazel-nut to that of a good sized orange. In only one case of those reported was the diagnosis made before operation. They usually occur in connection with other pelvic disturbances, but when uncomplicated, pain is the only constant symptom. The left ovary is the one more frequently affected.

Riedel makes the following classification of hematoma of the ovary: (1) Hemorrhage of the Graafian follicle (vesicular); (2) multiple vesicular hemorrhage; (3) extravesicular; (4) intravesicular. The first variety, small hemorrhages in different follicles, occurs in infectious diseases, burns, and poisoning. The third variety, extravesicular, includes anomalies of ovulation, and extravasation, before or after the eruption of the follicles. This extravasation may take place either into the stroma, or it may produce an internal hemorrhage, followed by a peritonitis. In the intravesicular type the extravasation takes place into the follicle, and is held within the ovary.

Of these varieties the follicular type is by far the most common.

It is possible that the case of Mrs. B—— belonged to the extravesicular variety; that there was a slight extravasation of blood last February, giving rise to the symptoms at that time, the ruptures afterwards closing and the ovary partially discharging itself through the tube, only to fill up again later.

TRAUMATIC RUPTURE OF THE INTESTINE TREATED BY LAPAROTOMY

In the Service of Dr. W. E. Rochford

Mr. J. B.——, aged 62, machinist, injured on March 1st. While walking on the railway tracks was struck by a train, sustaining an extensive scalp wound and contusion of the forehead. He was able to walk to the hospital (a distance of about half a mile) accompanied by a policeman.

Upon examination by the house surgeon, the patient was found to suffer comparatively little from the effects of the injury; the mind was clear. He reached the hospital about 8 p. m. He did not complain of any pain in the abdomen. About three hours later the pulse suddenly changed from normal to 140, with a rise in temperature to 101°. He now complained of intense pain in the lower abdomen. The abdomen was exceedingly tender upon palpation; internal hemorrhage was then thought of. At 8 o'clock the following morning the temperature had fallen to 99°, and the pulse to 110. The pain in the abdomen had diminished, and his general condition seemed much better. On the morning of the 3d there was a marked change for the worse. The patient began fecal vomiting, and the abdomen appeared somewhat distended and was very tender over the left in-

guinal region. On percussion there was a flatness over the right lower abdomen, and slight dullness on the left side. The patient had a small incomplete inguinal hernia on the left side, which had existed about five years. The tenderness over the hernia, as well as the other symptoms, seemed to indicate that probably there was a constriction of the bowel at this place.

The family had from the first objected to an operation, and I now refused to assume any further responsibility of the case unless the family consented to an immediate operation. After some hours' delay consent was given, and a laparotomy was performed. The patient was given ether, and an incision was made in the median line. Immediately on opening the peritoneal cavity, foul fecal-odored pus exuded from the wound. On enlarging the incision pus discharged freely, and seemed to come from the left inguinal region. A second incision was made at this point, and pus discharged freely from the wound.

On account of the distinct fecal odor, it was apparent now that there had been a rupture of the bowel. After swabbing out, with sponges, the pus from both openings, search was made for the tear in the bowel. A mass of omentum over the sigmoid was found partially gangrenous. This was ligated, and removed in sections. There was no constriction about the hernia. On exploring the other side, beginning at the ileocecal junction, a perforation was found in the ileum, through which fecal matter had extravasated. No intraperitoneal hemorrhage had taken place.

The rupture of the bowel was closed by inverting the margins of the wound with a purse-string and Lembert suture. This part of the bowel was made secure to the abdominal opening. The abdominal cavity was not flushed with salt solution, but was cleaned out as thoroughly as possible with wet gauze. Large strips of iodoform gauze were packed in the wound for drainage. Both wounds in the abdomen were left open. During the operation hypodermoclysis was given, and the patient rallied nicely.

On the following morning, the 4th, the patient's condition was remarkably good: temperature 99°, pulse 110; the mind was clear, and he did not suffer any pain. He was still, however vomiting a little matter with fecal odor. The patient complained of being hungry, and wanted something to eat. No nourishment of any kind had been given the patient since entering the hospital. The tongue, which had been dry, had now become moist. The patient's condition seemed very encouraging.

On the 6th the patient was doing well, and had a well formed movement of the bowel, following a Noble's enema. On the 7th his condition suddenly changed for the worse; the pulse became weaker and the temperature subnormal; and on March 8th, about noon, he died. Peritonitis and general sepsis had developed.

There were no external signs of injury about the abdomen, no discoloration of the slightest degree, or any evidence that the patient had sustained an injury of the abdomen. The only marks of violence were about the head and face. The slight shock, the patient's ability to walk to the hospital immediately following the accident, and the rupture of the bowel without any external signs of contusion make this case one of interest. Had an operation been performed earlier, it is possible the result might have been different.

CLINICAL MICROSCOPY

Conducted by George Douglas Head, M. D.

CYTODIAGNOSIS OF PLEURAL AND CEREBROSPINAL FLUIDS

A careful histological examination of the cells contained in pathological effusions has continued to interest clinicians ever since the first publications of Widal and Ravant in 1900. Not sufficient data have been as yet collected to establish the value of such studies from a diagnostic standpoint, but each contribution to the subject by a reliable observer of experience assists in placing the whole subject upon a more sure foundation.

Turton, in The Practitioner for April, reviews in part the work already done and contributes his own findings in the following conclusions:

1. In pleural effusions an excess of lymphocytes indicates generally a tubercular origin; a preponderance of polymorphonuclear cells, an inflammatory process due, for instance, to a pneumococcal or streptococcal infection. A passive or mechanical transudation contains as a rule a large number of endothelial cells. The author states that in early tubercular effusions exceptions to the rule occur.

2. The cerebrospinal fluid in meningitis of tubercular origin usually shows lymphocytosis, whilst in inflammatory states caused by the meningococcus of Weichselbaum, the pneumococcus, or streptococcus, and in posterior basic meningitis it is characterized by an excess of polymorphonuclear cells. He admits that a mixed infection may produce "discordant results." Cytological examination may thus help in differentiating the different forms of meningitis, as also in differentiating meningitis from cerebral irritation due to typhoid fever or other infections, tetanus, and hysterical pseudomeningitis.

3. The presence of lymphocytosis is almost constant in general paralysis of the insane, in tabes dorsalis, in syphilitic diseases of the central nervous system.

In conclusion the author says: "I contend that in no case should a diagnosis be based wholly on the results of the cytological examination, but this should form merely a valuable link in the chain of clinical evidence."

Diagnostic Value of the Microscopical Examination of the Fasting Stomach Contents

In the April 8th number of the Medical Record, Ackermann and Gompertz present a study of the microscopical findings in the gastric juice of fasting stomachs. They use a No. 9 or No. 10 soft rubber tube, with two large openings situated on opposite sides. The contents are secured by the expression method, and at a time when the stomach is supposed to be empty. From 5 to 15 cc. of fluid is considered as normal, but if the amount withdrawn is over 20 cc. the quantity is abnormal, and indicates a hypersecretion or stagnation. The odor, reaction, and consistency of the gastric contents are then examined, after which a careful microscopical examination is made.

If the material is composed of mucus or sputum which has been swallowed, one will see (a) numerous alveolar cells twice the size of leucocytes, with granular protoplasm, and many fat globules; (b) much pavement epithelium; (c) leucocytes; (d) myelin bodies. If the fluid is composed of mucus plus gastric juice there will be seen (a) free nuclei of epithelial cells and leucocytes; (b) isolated yeast cells; (c) bacteria; (d) myelin bodies. The existence of the free nuclei is positive evidence of the presence of HCl and pepsin.

The authors then describe in detail the appearance of the stomach contents in the fasting stomach of pathological conditions. In stomach contents free from stagnation and containing HCl will be seen (a) free nuclei of leucocytes in groups (Jaworski's kernels); (b) nuclei of epithelial cells; (c) nuclei of pavement epithelial cells; (d) striated mucus; (e) spirals of snail-like bodies. In the stomach contents without stagnation and without HCl will be found (a) leucocytes and epithelial cells which are unchanged; (b) blood, pus, mucus, and possibly infusoria or amebæ. If, under other conditions, blood and pus are constantly present, and acute phlegmonous gastritis or purulent inflammations from other parts can be excluded, a positive and early diagnosis of carcinoma can be made, long before a tumor can be palpated.

The authors lay great stress upon the presence of infusoria in the gastric contents, and maintain that when they are found in conjunction with blood and pus a diagnosis of extrapyloric carcinoma is justifiable.

In stagnation of the stomach contents with HCl there will be found (a) sarcinæ, (b) yeast cells, (c) food remnants. In cases of hyperacidity the muscle fibres are partially digested. Sarcinæ are never found unless the stomach contents contain HCl. The yeast cells are usually found in chains where there is stagnation of the stomach contents. In pyloric obstruction due to spasmodic contraction, ulcer, or cicatrix, the sarcinæ are abundant. In stagnation without HCl and with lactic acid, sarcinæ are absent, Oppler-Boas bacilli and yeast cells are present. This latter condition is most commonly seen in malignant disease of the stomach, or in malignant disease of other organs associated with atrophy of the gastric mucosa.

The conclusions which Ackermann and Gompertz have published in this article should be received in a most conservative spirit. The microscopical study of gastric findings following a test meal has been disappointing, and very little of value from a diagnostic standpoint can be ascertained by such examinations. Only by the repeated examinations of large numbers of specimens taken from the stomachs of fasting patients, can the value of such examinations be determined.

The authors do not state specifically the number of cases studied. Coming from the clinic of Paul Cohnheim of Berlin, it is to be presumed that the conclusions are based upon the study of a large amount of clinical material.

If it is possible to secure stomach contents from most patients with stomach disease, who are fasting, it would seem reasonable to suppose that the microscopical examination of such fluid might give more definite findings than the microscopical study of the gastric contents after a test-meal. The part played by swallowed mucus will certainly offer difficulties, especially where it is large in amount, as happens in certain patients whenever the stomach-tube is introduced.

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STATE MEDICAL SOCIETY

The meeting of the State Medical Association will take place in St. Paul June 1st and 2nd. The House of Delegates will meet on Wednesday, May 31st, for the transaction of the business of the Association.

Aside from the scientific program the contract-practice act will receive attention. It is to be hoped the amendments which have been adopted in many of the county societies will pass the House of Delegates, and that thereafter no member of the state society will venture to do contract practice.

The scheme is pernicious, and should be looked upon as distinctly unethical.

The program of the scientific work is good, and in itself will bring out a good attendance.

ANNUAL MEETING OF THE HENNEPIN COUNTY MEDICAL SOCIETY

The annual address and banquet of the Hennepin County Medical Society came off Monday evening May first.

The important events of the evening cover the addresses of Dr. Webster of Chicago and of the mayor of Minneapolis, Hon. D. P. Jones. Dr. Webster talked of the relationship of appendicitis to pregnancy and pelvic diseases. As Dr. Webster was obliged to return to Chicago the same evening, his paper was not discussed. It contained the usual observations and suggestions that are so well known to the men of both the surgical and medical profession who see and study cases of appendicitis.

There seemed to be an unusual interest in the subject, and doubtless many would have discussed the paper had it been permissible.

The paper will be published simultaneously in the new Surgical Journal and The Lancet in a short time.

The mayor of Minneapolis responded to the toast "Municipal Anastomosis." His theme was the influence of large medical organizations on city hospital appointments. He advocated the divorcement of the hospital from politics for all time, and promised to do his share in establishing such a precedent. He also asked the Hennepin County Medical Society to endorse three or four names of physicians who would make good city physicians, and he promised that one of the men would be chosen in July. The mayor was very earnest in his manner, and evidently intends to do what is right. The recommendations will be carried out at the June meeting of the Society.

The Minneapolis papers commented on the mayor's remarks, and intimated by squibbs and cartoons that, instead of removing the city hospital from politics, he had plunged the candidates into politically hotter water than they ever experienced before. If the newspapers will let the matter drop, the physicians will recommend the men without unpleasant or unethical friction.

It has been rumored that at least twelve candidates have already filed their applications with the mayor. If the Society recommends three or four men for the Board of Corrections and Charities to make a selection, doubtless some of the applicants will stand a much better chance. At all events there will be no strenuous wire-pulling, and after the appointment is made no ill feeling will remain.

The city needs a good man regardless of politics. So far the City Hospital has fared well. No well-founded objection can be raised to any of the recent appointments.

Minneapolis should copy the methods of St. Paul in the matter of hospital construction,

liberal appropriations, and continued service of one man. This would mean the building up of a large hospital for the care of the sick rather than for the benefits of political aspirants.

HEALERS OBLIGED TO REPORT CONTAGIOUS DISEASES

The Minneapolis city council has recently passed an ordinance requiring all kinds of healers, osteopaths, faith-curists, chiropractics, and Christian scientists, to report all contagious or preventable diseases. The list includes tuberculosis, typhoid, pneumonia, and the various exanthematous diseases. The ordinance implies that all those who treat disease must be able to diagnose properly the conditions they come in contact with. It also implies that healers must be qualified physicians or, if not able to recognize or diagnosticate contagious diseases, or in any way are reckless or careless and allow contagion to occur they must suffer a penalty for the violation of laws which guard the public health. It is presumed that local boards of health may legally require the observance of the ordinance.

So far it has been impossible to secure the conviction of the irregular or itinerant practitioner, for the reason that the accused disclaims any responsibility, excusing themselves on the ground that they were not engaged in the practice of medicine.

The regularly licensed practitioner who seeks to evade the laws of quarantine for the purpose of relieving his favored patient from the restrictions of a placard, is arrested and fined. The public are pleased to know the doctor must live up to the letter of the law, and are correspondingly displeased when the so-called healers are persecuted—from their standpoint.

Unquestionably the spread of many contagious diseases is due to ignorance of the healer who does not distinguish between "error of thought" and the virulence of germs. If the ordinance is sound, (there is no question but that it has been carefully considered), the effect of it will soon be tested.

If Minneapolis is able to maintain and enforce its ordinance, it will be copied elsewhere.

The weapon against irregular medicine is powerful, and will do more good than essays or criticism. The ordinance follows:

Every person who shall treat, attend, or visit, for the purpose of treating with or without physical agencies any other person who is sick or affected with any contagious or infectious disease, such as asiatic cholera, whooping cough, yellow fever, smallpox, scarlet fever, measles, tuberculosis, diphtheria, membraneous croup, typhus or typhoid fever, within said city, there being no regularly licensed physician in attendance shall, within 24 hours after the first treatment, attendance or visit, as aforesaid, report in writing to the Department of Health of said city the existence of such disease, the date of its appearance, and the name and address of the person affected therewith, and every person who shall so treat, attend or visit as aforesaid any other person who is sick with any such disease shall be presumed to have and possess such knowledge of the characteristic symptoms of said contagious or infectious diseases as is commonly possessed by physicians regularly licensed to the practise of medicine under the laws of the state of Minnesota.

RECIPROCITY LAW OF MINNESOTA.

Dr. H. H. Witherstine, state senator from Rochester, introduced a bill into the legislature for reciprocity among physicians who desire to practice medicine in Minnesota. Heretofore when a practitioner moved into Minnesota he was obliged to pass the examination of the State Board of Medical Examiners.

Under the provisions of the new bill a certificate of registration and a diploma from a medical college in good standing will entitle the holder to recognition as a qualified physician.

The medical colleges throughout the country in which the standard is as high as that in the universities of Minnesota are not many. This new bill will eventually raise the standard of other colleges, and within a few years a general reciprocity among medical schools will be established. A national law will then pass Congress, and simplify what has been a tangle and a bugbear to the older medical men who are obliged to change their residences for one or more good reasons.

The text of the bill is as follows:

Be it enacted by the Legislature of the State of Minnesota:

Section I. That the State Medical Examining Board, either with or without examination, may grant

a license to any physician licensed to practice by a similar board of another state, and who holds a certificate of registration showing that an examination has been made by the proper board of any state on which an average grade of not less than 75 per cent was awarded to the holder thereof, the said applicant and holder of such certificate having been at the time of said examination the legal possessor of a diploma from a medical college in good standing in this state, which said diploma may be accepted in lieu of an examination as evidence of qualifications. In case the scope of said examination was less than that prescribed in this state, the applicant may be required to submit to an examination in such subjects as have not been covered. The fee for such examination shall be $50.

A certificate of registration or license issued by the proper board of any state may be accepted as evidence of qualification for registration in this state: Provided, the holder thereof was at the time of such registration the legal possessor of a diploma issued by a medical college in good standing in this state, and that the date thereof was prior to the legal requirements of the examination test in this state.

Sec. II. If by the laws of any state or the rulings or decisions of the appropriate officers or boards thereof, any burden, obligation, requirement, disqualification or disability is put upon physicians registered in this state or holding diplomas from medical colleges in this state which are in good standing therein, affecting the right of said physicians to be registered or admitted to practice in said state, then the same or like burdens, obligations, requirements, disqualifications or disability shall be put upon the registration in this state of physicians registered in said state or holding diplomas from medical colleges situated therein.

Sec. III. All acts and parts of acts inconsistent with this act are hereby repealed.

Sec. IV. This act shall take effect and be in force from and after its passage.

PLANS FOR THE A. M. A. MEETING

The local medical societies and the commercial bodies of Seattle and Tacoma are making elaborate arrangements to entertain the physicians who go to Portland on the special trains which have been arranged for. But some of our Minnesota physicians may be unable to get berths on the Minnesota special, as the Chicago trains have already been filled up, and space on the Minnesota special may be called for from the East, and unless reservations are made by local men, the space will be sold to others.

It is a mistake on the part of anyone who expects to go to Portland on the special Minnesota train not to engage his berth at once. The distance is so great that the railways cannot make up a train on a few hours' notice, and not a single car can be added to the train already planned for. If you want further information, write at once to G. F. McNeil, City Passenger and Ticket Agent of the N. P. Railway, Minneapolis.

REPORTS OF SOCIETIES

MINNESOTA ACADEMY OF MEDICINE

ARTHUR W. DUNNING, M. D., SECRETARY

The regular meeting of the Academy was held at the Commercial Club, St. Paul, Wednesday evening, May 3, 1905.

There were 29 members and two guests in attendance. The president and vice-president both being absent, the meeting was called to order by the secretary, and on motion Dr. Chas. A. Wheaton was chosen chairman for the evening.

Dr. T. S. Roberts, of Minneapolis, presented a specimen of tumor of the breast. Dr. J. C. Stewart discussed the pathology of the case.

Dr. Alex. R. Colvin gave a clinical demonstration of a cyst of the ulna in a child 8 years old, showing also radiographs of the arm taken at different times.

Dr. Chas. A. Wheaton discussed at considerable length the subject of osteosarcoma, reporting in detail a recent case, together with many others in a more general way.

Dr. Colvin exhibited a series of radiographs illustrating Dr. Wheaton's case, and demonstrating the value of the radiograph in the differentiation of osteosarcoma and osteomyletis.

These topics were discussed by Doctors J. C. Stewart, C. H. Hunter, L. A. Nippert, J. T. Rogers and Alex. R. Colvin, and by Dr. Wheaton in closing.

Owing to the lateness of the hour the reading of the thesis of Dr. Chas. Nootnagel was postponed until the next meeting.

BOOK NOTICES

PORT ARTHUR. A Monster Heroism. By Richard Barry. Illustrated from Photographs taken on the Field. Price, $1.50 net. New York: Moffatt, Yard & Co.

As long as the achievement of man has interest for man the siege of Port Arthur will hold attention.

"Absolutely impregnable," was the judgment

of men upon this fort, and, mark you, it was the opinion of men not accustomed to use exaggerated language. Port Arthur fell in five months; and human history has nowhere written such a struggle. It did not fall for lack of brave defenders, but because it was besieged by fighters such as the world has never seen.

The first, and as yet the only reliable and satisfactory account, of the siege has been given to the world by Mr. Barry, an American newspaper man, who went to the war at his own expense, and who soon found the leading newspapers and magazines of the world anxious to get his material.

This volume of 340 pages is made up, in part, of his contributions to the London Fortnightly Review, the Westminster Gazette, the Paris L'Illustration, and the London News, abroad, and in America, the Century, Colliers, and the Saturday Evening Post. But the book is not merely a series of detached essays; it is a well arranged account of the entire campaign. It is a book of absorbing interest, and of real value.

WEBSTER'S INTERNATIONAL DICTIONARY

Some things are so well done that they need never be undone. The nineteenth century did not produce a book of which the above may more justly be said than of Webster's Dictionary. It is true that new words have often to be added to dictionaries, but most of the definitions and spellings in the first edition of Webster are almost as standard as those in the latest edition.

The late supplements to this volume bring it down to date; and so the large sums of money and the vast amount of labor that have been expended to make a better book than Webster have almost been thrown away. It is the standand in practically all the newspaper offices in the land, in almost all the courts, schools, and colleges of the country, and in the homes of almost all the educated people. Every doctor and every man, woman, and child who wants to read or speak intelligently should have a copy of the latest Webster's International Dictionary.

NEWS ITEMS

Dr. B. W. Burleigh, of Chicago, has located at Lyle.

Dr. G. J. Hanley has moved from Cass Lake to Pine River.

Dr. R. K. Keene has located in Wessington Springs, S. D.

Dr. W. G. Richards, State University, '04, has located at Pillager.

Dr. J. F. Roselle has moved from Sioux Falls, S. D., to Delmont, S. D.

The new Franciscan hospital at Breckenridge was dedicated on the 3d inst.

Dr. E. F. Murphy, a recent graduate of Jefferson, has located in St. Paul.

Dr. O. T. Peterson, of Northwood, N. D., is doing special work in Chicago.

Dr. J. T. Wood has moved from Hannah, N. D., to Minot, in the same state.

Dr. G. A. Mathews has moved from Dresden, N. D., to Napoleon, in the same state.

Dresden, N. D., wants a physician. It is a fairly good opening for a young man.

Dr. Rukke has moved from Kenmare, N. D., to Deep River, a new town in the same state.

Dr. Finn Koren, State University, '01, has returned to Appleton, where he first began practice.

The State Medical Association of North Dakota will meet at Grand Forks, May 24th and 25th.

Dr. W. W. Johnston, State University, '02, has given up practice at Geneva, and located at Lafayette.

Dr. H. D. Jenckes, of Pipestone, has been appointed physician of the Pipestone Indian Industrial School.

Dr. G. S. Carpenter, of Porter, Hamline, '01, was married last month to Miss Lenora Moulton, of Omro.

Dr. H. A. Halgren, of Watertown, will build an addition to his residence, and use it for hospital purposes.

A Montana physician has gone into bankruptcy, and reports no assets. Perhaps he went into practice without assets.

Dr. Olaf Bentzen, who has studied in several of the principal centers of Europe, has located in Grand Forks, N. D.

The citizens of Havre, Montana, have organized to build a hospital for that place. Dr. A. E. Williams is on the committee.

The contract for the hospital building which Dr. C. B. Lenont is to erect at Aurora has been let to W. B. Shaver, of Virginia.

Dr. A. E. Spalding, of Luverne, has let the contract for the construction of his hospital building to P. N. Gillham, of that place.

Dr. A. Torland, Hamline, '03, who has been studying in Europe, mainly at Vienna, for some months, has located at Underwood, N. D.

Dr. E. A. Crian, of Missoula, Montana, is doing post-graduate work in Chicago. He will locate in Butte upon his return to Montana.

Dr. G. L. Gosslee, Hamline, '03, has purchased the practice of Dr. Bennett, of Sanborn. Dr. Bennett goes to Correll to spend a year in farming.

Dr. J. Frankl, of Anamoose, N. D., is building a private hospital. The structure will cost about $4,000, and additions will be put up as needed.

Dr. Thos. A. McKenzie, a graduate of the University of Edinborough, and for a number of years a ship physician on a Cunard steamer, has located in Miles City, Mont.

The movement for a hospital at Mitchell, S. D., has taken definite form, and the committee has received the gift of a block of land. It is proposed to erect a $20,000 building.

A nurse at Hibbing who was called to a case of smallpox, which was reported to her as a case of measles, has brought suit against the physician because she contracted the disease.

Dr. W. C. Van Damme, of Minneapolis, and Dr. M. L. Hadsell, of St. Paul, who were recently convicted of performing a criminal abortion, have been sentenced to the penitentiary for four years each.

The West Central Minnesota Medical Society, at its session in Morris last month, elected Dr. C. E. Caine, of Morris, president; Dr. M. L. Ransom, of Hancock, vice-president; and Dr. C. R. Christenson, of Starbuck, secretary.

The State Sanatorium at Walker was treated shabbily by the legislature, inasmuch as no provision was made for the expense of its maintenance. The appropriation for the buildings, only $50,000, to be spent in two years, one-half in 1906 and one-half in 1907.

Dr. Gustav Schwyzer, of Minneapolis, was married last month to Mrs. Mary Robinson, a daughter of Thomas Lowry. Mrs. Robinson has been acting as nurse in the Northwestern Hospital, and she had won the respect and love of all her associates. Dr. and Mrs. Schwyzer have gone to Europe.

Dr. G. N. Watier, of Stillwater, died on May 1st from the effects of a dose of carbolic acid taken by mistake in the presence of a patient. Dr. Watier was born in Canada, and was 54 years old. He graduated from Trinity Medical College, Toronto, in 1883, and had practiced eight years in Stillwater.

The Stearns-Benton County Medical Society held its annual meeting last month at St. Cloud. The following officers were elected for the current year: President, Dr. J. M. McMasters, Sauk Centre; vice-president, Dr. G. A. Chilgren, Sauk Rapids; secretary, Dr. J. C. Boehm, St. Cloud; treasurer, Dr. R. I. Hubert, St. Cloud.

The physicians of Richland county, North Dakota, met at Wahpeton last month, and organized a county medical society, with the following officers: President, Dr. L. W. Meckstroth, Wahpeton; vice-president, Dr. C. P. Spottswood, Hankinson; secretary, Dr. R. H. Devine, Wahpeton; treasurer, Dr. W. E. Kiteley, Fairmount.

The State Board of Medical Examiners elected its officers last month as follows: President, Dr. A. F. Groves, Brainerd; vice-president, Dr. Eric Giere, Madison; secretary, Dr. C. J. Ringnell, Minneapolis. The board has not before filled the office of vice-president. The board is working quietly but very effectively, both driving and keeping out of the state many unlicensed men.

The eleventh annual meeting of the Alumni Association of the College of Medicine and Surgery of the State University will be held at St. Paul, Wednesday, May 31. Clinics will be given during the day in the St. Paul hospitals, and the annual banquet will be given in the evening at the Metropolitan. Dr. Herbert W. Jones, Minneapolis, is secretary and treasurer, and will give any further information desired.

HOSPITAL POSITION WANTED

A graduate nurse with hospital experience and best of references desires charge of a hospital in city or country. Address Graduate Nurse, care of THE NORTHWESTERN LANCET.

FOR SALE

Physician's practice and property in a thriving city of North Dakota. An established practice of fifteen years, averaging between $4,000.00 and $5,000.00 annually. For particulars, address B, care of North Western Lancet.

FOR SALE.

The proprietor of a well-established Swedish Movement Institute in Minneapolis desires to sell all or a half interest in the same to a good physician who will become its manager and director. He can also continue his private practice. Address for particulars S. M., care of THE LANCET.

PHYSICIANS LICENSED AT THE APRIL (1905) EXAMINATION TO PRACTICE IN MINNESOTA

We publish this list in this form at the request of the State Board of Medical Examiners, in order that the names may be pasted in the Official Register, copies of which are sent free by the Board to anyone who applies for the same and remits five cents to pay the postage.

Bohland, E. H. (R); Hamline, 1903; April 14, 1905.....Hanover, Minn.

Cannon, Harry (R); Washington Uni., 1904; April 14, 1905....St. Paul, Minn.
Cattanach, A. M. (R); McGill, 1882; April 14, 1905.....Superior, Wis.
Christensen, F. A. (R); Central Col. of P. & S., Indianapolis, 1895; April 14, 1905.....Lake Mills, Iowa
Conkey, C. D. (R); Rush, 1882; April 14, 1905.....Superior, Wis.
Curney, F. R. (R); P. & S., Chicago, 1904; April 14, 1905.....Chicago, Ill.

Fowler, J. H. (R); Rush, 1902; April 14, 1905.....Tower, Minn.

Kalinoff, D. (R); Uni. of Mich., 1901; April 14, 1905.....Stillwater, Minn.

Laliberté, A. L. (R); Laval Uni., 1904; April 14, 1905.....Minneapolis, Minn.

McEachern, W. A. (R); P. & S., Chicago, 1904; April 14, 1905. Sandstone, Minn.
McKee, C. S. (R); Toronto Uni., 1896; April 14, 1905.....Minneapolis, Minn.

Sunde, P. H. (R); P. & S., Chicago, 1902; April 14, 1905....Pine River, Minn.

Wall, C. H. (R); P. & S., Chicago, 1904; April 14, 1905.....Mellen, Wis.
White, J. S. (R); Jefferson, 1893; April 14, 1905.....Fort Snelling, Minn.

The following were licensed at the January examination, but the names were not given out by the Board at that time:

Bearman, G. P. (R); McGill Uni., 1898; Jan. 13, 1905.....Fisher, Minn.
Bigelow, E. C. (R); Uni. of Minn., 1904; Jan. 13, 1905....Dodge Center, Minn.
Burleson, C. E. (R); N. W., Chicago, 1904; Jan. 13, 1905....St. Peter, Minn.

Cohnheim, Eva (R); Uni. of Lausanne, 1903; Jan. 13, 1905..., St. Paul, Minn.
Crowley, J. M. (R); N. W., Chicago, 1903; Jan. 13, 1905.....Galva, Iowa

Golseth, G. (R); Ill. Med. Col., 1905; Jan. 13, 1905.....Ashby, Minn.

Detling, F. E. (R); N .W., Chicago, 1901; Jan. 13, 1905..West Superior, Wis.

Heinen, Wm. C. (R); Uni. of Iowa, 1902; Jan. 13, 1905.....Whittemore, Iowa

Klovstad, Andreas (R); Uni. of Christiania, 1891; Jan. 13, 1905..Yankton, S. D.

Lebowsky, J. A. (R); Hamline, 1904; Jan. 13, 1905.....Minneapolis, Minn.

McLaughlin, E. M. (R); McGill, 1903; Jan. 13, 1905.....Winona, Minn.
Murphy, E. F. (R); Jefferson, 1904; Jan. 13, 1905.....Anoka, Minn.

Robinson, L. S. B. (R); Harvard, 1901; Jan. 13, 1905.....Chicago, Ill.

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APPENDICITIS IN RELATION TO PELVIC DISEASE *

By J. CLARENCE WEBSTER, M. D.

Professor of Gynecology and Obstetrics, Rush Medical College, affiliated with the University of Chicago.

CHICAGO

Within recent years gynecologists have begun to make a careful examination of the vermiform appendix in the course of abdominal operations for diseases of the internal genital organs, and it is now the practice of many to remove the appendix in all cases in which it is not entirely normal. The author finds it advisable to carry out this procedure in about twenty-five per cent of the cases in which he opens the abdomen.

The frequent association of pelvic and appendical diseases has led to the belief in the minds of many operators that there is a special relationship between them. Others, however, hold that this view is fanciful, and state that if it be correct, appendicitis should be much more common in women than in men, whereas, the universal opinion seems to be that the disease is about three times as frequent in males as in females. Recently, Howard Kelly has pointed out, after a careful study of the records of the Johns Hopkins Hospital, that, in a total of over 900 cases of appendical disease admitted to all departments of the institution, the number occurring in females is slightly greater than in males; the largest percentage of severe acute attacks, especially those associated with general peritonitis, was found among males. It is likely that other hospital statistics will correspond more or less closely to the findings in Johns Hopkins if the records of the gynecological department be examined as well as the general surgical. In a very large percentage of cases the appendical disorder is not discovered until the abdomen is opened, either not having been suspected previously or having been diagnosed as pelvic or other disease. Such cases should be included in a classification, even though no acute attack had ever taken place.

While it is not possible at present to give numerous accurate data regarding the relative frequency of appendicitis in males and females, it is at least quite certain that it is not more common among females than in males. If, however, a comparison be made between females who are healthy and those who have pelvic disease, appendicitis is undoubtedly much more common in the latter class: or, in other words, pelvic disease, especially that due to infection, is to be regarded as a cause of inflammation in and around the appendix. Primary infections in the latter must also be included among the causes of inflammatory processes in the pelvic peritoneum and viscera, though this relationship is scarcely yet recognized by the majority of gynecologists. However, in a very large percentage of cases in which disease is present both in the appendix and the pelvic structures they are infected independently.

Various writers have endeavored to establish a special anatomic connection between the appendix and right appendages, finding therein an important reason for the frequency with which inflammatory changes are present in both. A special ligamentous band has indeed been described as extending between the right ovary and the appendix, these structures being directly connected by lymphatics. Clado has given the

*Read by invitation at the annual meeting of the Hennepin County Medical Society at Minneapolis, May 1, 1905.

name of "appendiculo-ovarian" to this ligament. Careful examination of the pelvis proves that there is no justification for describing such a structure, which is nothing more or less than a slight ridge on the parietal peritoneum extending upwards from the infundibulopelvic or suspensory ligament of the ovary, which is simply the outermost portion of the broad ligament. Only in a small percentage of cases does this ridge extend toward the mesentery of the appendix. In the great majority of cases it is directed toward various points in the region of the head of the cecum, or does not exist at all as a distinct peritoneal fold. Embryological study proves that no special relationship exists between the appendix and the ovary. The latter at first lies near the kidney in the upper abdominal region. The path of its descent toward the pelvis is marked by its vessels, and the infundibulopelvic ligament represents merely the last stage in its downward progress. That it passes close to the appendix and cecum is quite evident, but it has no more organic relationship to them than to the ureter. It is not surprising that a peritoneal fold should often extend upward toward them from the infundibulopelvic ligament, but this must be regarded as an accidental and entirely unimportant arrangement. It is true that an artery may sometimes pass from the ovarian artery to the appendix, but the same may be found in the male, and the peculiarity is very inconstant in each sex.

The statement of Clado and Lafforgue that a special lymphatic connection between the internal genitals and the appendix exists along the route of the so-called "appendiculo-ovarian ligament" is open to considerable criticism. Howard Kelly, in his recent work, shows that the lymphatic relationship must be very indirect. The lymphatics of the appendix drain mainly through the meso-appendix into the ileocolic glands, though, occasionally, a few small vessels pass from the proximal portion of the appendix into the cecal trunks. The subserosal lymphatics of the cecum anastomose with those of the neighboring peritoneum, and in this way, as Kelly states, an insignificant connection may exist between the appendix and cecum, on the one hand, and the iliac and lumbar glands, on the other. The lymphatics of the tube and ovary pass to the lumbar glands anastomosing with the small vessels of the parietal peritoneum in their neighborhood. It is, therefore, evident that the appendix and the genitalia are not directly or specially connected by lymphatic chains, and it is doubtful if the lymphatic system plays an important part in the transmission of infection from one structure to the other.

Of far greater importance is the relationship of contiguity. In the normal position of the appendix, it is not very far removed from the normally placed right tube and ovary, but in a very considerable percentage of women the appendix alone or with the cecum may lie below the pelvic brim. It is not therefore surprising that an infective process arising in the appendix may extend to the right appendages or other structures in the neighborhood along the peritoneal surface, or that, from an infected tube, there may be an extension to the region of the appendix. In the same way viscera in the neighborhood of an infected gall-bladder may be involved though not actually in contact with the latter. Similarly, in the left side of the pelvis the great frequency of adhesions between the sigmoid flexure and the left broad or round ligament or uterine appendages, suggests the spread of infection from bowel or tube; probably, most frequently from the latter.

An infective process arising in the appendix may cause it to become adherent to the pelvic peritoneum, the right tube or ovary, broad ligament, round ligament, uterus, or bladder without the formation of pus. The adhesions may be slight and filamentous, or dense and thick. In other cases the infection may extend to these structures, though the appendix does not become adherent; in this way the outer end of the tube may sometimes become closed or buried in adhesions. Sometimes the cecum becomes adherent to the right broad ligament or adnexa. In some cases peritonitis may extend to the deep portions of the pelvis. It is rare that the left appendages are involved, but they may be if the appendix be very long and displaced downward and to the left.

Pelvic suppurative processes may also be secondary to appendicitis. Rotter, in 1890, collected a series of 132 abscesses following appendicitis, and found that 40 were pelvic; in 27 of

the latter the appendix was in the pelvis. The pelvic abscess may be associated with pus in the right iliac fossa or elsewhere, very rarely in the left iliac fossa. It is important to note that while iliac and pelvic abscesses may be continuous, they are usually distinct from one another.

The appendix may sometimes be connected with the abscess cavity, but in other cases may be at some distance from it. Occasionally, the abscess may involve the tube or ovary, or both of these in combination.

Infection extending upward from the Fallopian tube may lead to involvement of the appendix or cecum both in suppurative and nonsuppurative conditions, whether the appendix is in contact with or at some distance from the right appendages. These undoubtedly form the majority of the cases in which co-existing disease is found in these structures. The same variations in pathologic conditions may occur, which have already been mentioned as occurring in cases in which the infection is primary in the appendix. In tuberculosis of the right appendages the appendix and neighboring peritoneum may be involved. In one case in which the author operated upon the tip of the appendix, the distended tube and small intestine were adherent at one point and in communication.

Pelvic new growths may enter into relationship with the appendix in various ways. The latter may be compressed between a tumor and the parieties. It may become adherent, or, sometimes, it may be considerably displaced by the upward extension of a tumor, especially one developing extraperitoneally. Adhesions may possibly in some cases be due to pressure, but in most cases they are due to primary appendicitis, extension of infection from the Fallopian tube, torsion of the pedicle of a tumor, or escape of its contents. Suppuration of the new growth may in some cases be started by an acute appendicitis.

The sac of an ectopic gestation may enter into very intimate relationships with the appendix either by its extraperitoneal development, by direct contact and adhesion-formation, or by extravasation of blood. An onset of acute appendicitis under such circumstances may lead to suppuration in the ectopic mass.

In view of the facts which have been stated, it is evident that, in the treatment of pelvic disease in the female, the possibility of the co-existence of appendical disease should always be kept in mind, and should exercise an influence on the course of treatment adopted. It should always be considered when there is a discussion as to whether an operation should be carried out by the abdominal or vaginal route. Indeed, it is certain that the extensive adoption of the latter is bound to leave untouched associated appendical disease in a considerable percentage of cases, and, in some instances, this may mean placing the life of the patient in jeopardy. Moreover, in complicated cases in which the appendix is densely adherent to pelvic structures, it may be torn across by the manipulations, causing very serious complications. In evacuating pelvic abscesses through the vagina, the possibility of an appendical or of the co-existence of another abscess at a higher level should be kept in mind, and a guarded prognosis given.

In every case of abdominal section for pelvic disease the appendix should be examined and removed when abnormal or diseased unless the patient's condition is such as to forbid an extension of the period of operation. The question of prophylactic removal of a normal appendix during abdominal operations, is one that is still under consideration. The writer is of the opinion that patients should always be consulted beforehand, and it is his experience that they generally leave the matter to the discretion of the operator. The removal is so simple and quickly carried out that it can scarcely be considered as adding materially to the risk of most abdominal operations. The possibility of diagnosing pelvic for appendical disease, or the latter for the former, should also be kept continually in mind. Mistakes may lead to very serious results. Thus, the writer has known an acute gangrenous appendicitis treated as an acute salpingitis, palliative treatment being recommended, with the result that rupture occurred, causing death from general peritonitis. In another case a tender swelling in the right half of the pelvis, developing about a year after supravaginal amputation of a myomatous uterus, was regarded as an enlargement of the right appendages, which had not been removed at the time of operation, and a vaginal section was made for the purpose of extirpating the mass; so many adhesions were

found that the operation was abandoned, and an abdominal incision made. The cecum was found in the pelvis, and the appendix, thickened and containing pus, was adherent to the right broad ligament, the appendages being scarcely affected.

Mistakes are also frequently made which do not endanger the patient's condition, because operative treatment is carried out at the earliest possible opportunity. Thus torsion of the pedicle of an ovarian tumor, producing pain, nausea, vomiting, leucocytosis, etc., may closely simulate an acute appendicitis, and a considerable number of cases are on record. The mistake is most likely to occur when the tumor is small and situated above the pelvic brim, when there was no previous knowledge of its existence, and when the abdominal wall is so rigid and sensitive to palpation that the growth cannot be palpated.

The writer has recently seen a case in which the diagnosis of appendicitis was made in a girl of thirteen. There was right-sided pain, dullness and rigidity, elevation of temperature, and increasing leucocytosis; no mass could be felt in the pelvic cavity on rectal examination. At operation there was found torsion of a small left ovarian cystic tumor with hemorrhage into its substance and necrosis. It was adherent in the right iliac fossa, and there was local peritonitis. The appendix was slightly thickened, and contained a little pus. The dulness on percussion in the iliac region was due to the tumor, but it was regarded before operation as caused by inflammatory exudate following an appendicitis.

Rupture of an ovarian or tubal abscess with infective contents may lead to symptoms and signs characteristic of appendicitis, and the diagnosis may be established only by abdominal section.

Right-sided ectopic gestations may sometimes be mistaken for appendicitis, e. g., when there is intratubal hemorrhage, tubal abortion, or rupture of the tube into the peritoneum or broad ligament, especially when localized peritonitis occurs. Inflammation of the right ureter may also simulate appendicitis. Within the last three years the writer has seen three cases in which abdominal section had been advised for supposed appendicitis (two of the women being pregnant), when careful examination revealed thickening and tenderness of the lower end of the right ureter. There were successive attacks of right-sided pain, accompanied by elevation of temperature and nausea. In the case of the pregnant women the condition gradually disappeared after labor. The other case grew worse, her condition being tuberculous.

Variations in the symptoms associated with appendicitis in relation to menstruation may be misleading. Thus an acute appendicitis developing just before a menstrual period is expected, may cause suppression of the flow, and may lead to a diagnosis of some pelvic disorder. In a chronic appendicitis there may be an aggravation of symptoms in connection with menstruation, simulating various disorders of the genitalia, and it may be quite impossible to distinguish between them.

Examination of the Blood.—In the study of pelvic and abdominal diseases the most careful attention must be given to the analysis of the blood, not only from the point of view of treatment, but with regard to the establishment of diagnosis. The percentage of hemoglobin and the number of red cells must be estimated, and the leucocyte count is of the greatest importance. In some cases the iodophile reaction of the cells or Ehrlich's reaction may be advisable.

Cürschmann, in 1901, published a large number of observations relating to appendicitis. He showed that when the leucocytes increased in the first few days, remaining increased, a suppurative process is indicated. A number of 25,000 or more, continuing even for a short time, is an almost certain sign of abscess formation. After opening or removing a suppurating area the leucocytosis diminishes. If this is not the case, there is not free drainage, or another area of suppuration exists. He states that the temperature is less reliable than the leucocyte count in diagnosing acute abscess formation.

Federman states that the more severe the case the nearer the onset of the attack is the highest point of the leucocyte curve. In acute appendicitis this is usually on the third day. Leucocytosis continues as long as toxins are produced which stimulate leucocyte production. When there is general infection the leucocytes are smaller in number. In general peritonitis he considers high leucocytosis a favorable sign.

He insists upon frequent examinations to determine the leucocyte curve, which he regards as more valuable than the actual count.

Dützmann has made a particular study of gynecologic affections. His conclusions are as follows: The leucocyte count is valuable when an exudate exists, in determining suppuration and in establishing an indication for operation. In doubtful cases the iodophile reaction is valuable. In disease of the tubes and ovaries, suppuration may often thus be determined. Tuberculous collections cause no leucocytosis; gonorrheal pus leads only to a slight increase.

Large tumors with twisted pedicle or those which irritate the peritoneum, cause marked leucocytosis, though no pus may be present, but in such cases the iodophile reaction of the leucocytes is absent. Continued leucocytosis in sepsis is favorable, whereas a diminution is an unfavorable sign.

In estimating the number of leucocytes, the normal variations must be remembered; also the influence of pregnancy in producing leucocytosis must be kept in mind. In uncomplicated cases of tubal pregnancy it is interesting to note that Dützmann found no leucocytosis. In chronic localized suppurative processes the leucocyte count is of less significance than in the early stages. Longridge points out that a differential count may give valuable information when the quantitative count fails. He says that when the polymorphonuclear leucocytes rise above 80 per cent, even if the total count be low, abscess formation or marked toxemia must be suspected, though he does not regard this sign as infallible. Gulland also insists on the differential count, though stating that it may fail in chronic suppurative conditions. Scott Carmichael says that for clinical purposes the total count suffices in the great majority of instances, and that it is only in doubtful cases, especially where the total count does not correspond with the symptoms, that a differential count is necessary. Locke states that the iodophile reaction is the most certain indication of toxemia. In the great majority of localized abscesses he found a positive reaction, which usually disappeared within twenty-four hours after drainage was carried out.

DIFFERENTIAL STUDY OF THE WHITE CELLS

Very recently different workers have pointed out that valuable information may be obtained from a comparative study of the different white cells in the blood, namely, the phagocytic groups (large mononuclear, transitional, and polymorphonuclear) and the non-phagocytic (small lymphocytes and eosinophiles). Holmes states that the number of the former indicate the fighting strength of an organism, while the latter indicate the character of the endurance. He states that a high or increasing leucocytosis, associated with a high or increasing small lymphocyte count, indicates an infection of high or increasing virulency, accompanied by a high or increasing resisting power. When the former is associated with a low or decreasing small lymphocyte count there is infection of high or increasing virulence accompanied by a low or diminishing resisting power.

A low or decreasing leucocytosis with a high or increasing resisting power indicates an infection of low or decreasing virulence, accompanied by a high or increasing resisting power. When both counts are low or decreasing there is evidence of a high or increasing power. When the small lymphocytes are very scanty the power of reaction is very low. A gradual increase in their number is a favorable sign.

RESPONSIBILITY IN MENTAL DEFORMITY

J. Weir discusses the attitude of the law makers toward those mentally abnormal, as opposed to the insane. Since the physical basis of mind is demonstrable, it follows that mental deformity without disease is also possible and it is wrong to treat the large class of kleptomaniacs, sexual perverts, etc., as insane. While it is true that these conditions may exist as part of the picture of true mental disease, they are not intrinsically so, and much may be done to relieve them by suitable educational measures in youth. The early recognition and treatment of the victims of such deformities would serve in many cases to transform them into useful citizens, while as the law stands hardly a day passes that the newspapers do not record the imprisonment either in a penitentiary or lunatic asylum of some one mentally deformed.—Medical Record.

DIAGNOSIS OF LATENT PULMONARY TUBERCULOSIS*

By L. A. Nippert, M. D.

MINNEAPOLIS

While rare diseases are of interest, the common ailments of mankind naturally demand our greatest attention, more especially if their early diagnosis is the means of saving lives, which would be sacrificed without such recognition.

If you consider that 90 per cent of our population carry within their bodies somewhere, chiefly in the respiratory system, the germ of death, the bacillus tuberculosis, and that of those in which the disease has become active a large proportion can be saved by timely treatment, no apology will be needed for bringing before you for your discussion the subject of "Diagnosis of Latent Pulmonary Tuberculosis."

It may not be amiss to shortly review the morbid anatomy of this universal plague.

The ubiquitous tubercle bacillus either directly by inhalation or by being carried through the lymph channels causes proliferation of cells and exudation within the alveoli and the tissue of the bronchioles. The resulting thickening, the tuberculous nodule, may pursue several courses.

1. It becomes firm and fibrous, is walled off from the surrounding tissues, and remains in this condition, harmless.

2. By confluence of a number of foci a larger area of consolidation is formed. By reason of insufficient blood supply the center of this area degenerates, becomes cheesy, while from its periphery the surrounding tissues are attacked. This mass of cell detritus and bacilli, if not too large, may, by breaking into a bronchus, be expectorated. The resulting cavity collapses and cicatrizes. Nature has effected a complete cure.

3. If this fortunate result does not occur the tuberculous cheesy nodule may yet be rendered impotent by becoming encapsulated, and so effectively shut off from the lung tissues that under ordinary circumstances neither bacilli nor toxins gain admission to the system. Here nature has effected protection which may be permanent if the enclosing barrier is not weakened or removed. Should this occur the release of living bacilli leads to new invasion, which, in turn, may become again suspended by temporary or permanent encapsulation. A continuation of this process leads to cavity formation and final destruction of the lung tissues. Corresponding to these anatomical changes, *before cavity formation,* we have two forms of latent tuberculosis.

a. The inactive in which the tubercular focus has become encapsulated or expelled from the system, not giving rise to any symptoms need not be considered clinically.

b. The active latent form, the symptoms of which are so insignificant and obscure as to make the diagnosis a matter of difficulty.

With the advancement of the disease to such a degree that the findings of physical examination are indisputable or by positive proof of the presence of tubercle bacilli in the sputum, the latency disappears.

Before dismissing the diagnostic significance of the discovery of the tubercle bacillus let me impress the fact upon you that, while its presence elucidates everything, its absence proves nothing. Even in advanced stages of pulmonary tuberculosis we may not find tubercle bacilli for long periods.

Case 1.—In October, 1904, Mrs. S—— came from the coast where her health began to fail after an attack of grip during March. Her symptoms were anemia, loss of weight, cough and free expectoration, fever, and night sweats. On physical examination the upper and middle lobe of right lung were found to be riddled with cavities. No tubercle bacilli were found in the sputum. Two weeks later she died of pulmonary hemorrhage.

Case 2.—G. P——, factory girl, has had several attacks of tubercular pneumonia during the past year. Both lower lobes give cavernous respiration. Her abundant sputum has been examined many times with negative results.

Case 3.—O. N——, with typical history of beginning tubercular infection of lung, had sputum examined a number of times with negative results. After lapse of several months tubercle bacilli were found.

There may be no communication with a bron-

*Read before the Wright County Medical Society, January 2, 1905.

chus permitting the expectoration of the germs. In fact frequently, yes commonly, there is no expectoration whatever at first. Even through the greater part of the course of the disease it may be difficult to obtain sputum.

Mrs. B——, who consulted a specialist for supposed ovarian pain, was referred to me by him, as he found the uterus and adnexa normal, but patient had pyrexia.

On examination and from the history it was found that she had an infiltration, tubercular in character, of the right lower lobe. During an attendance of two months before her death she expectorated but once—enough for examination. A few bacilli were found in this sputum.

They may be so few in number as to escape detection. Hence frequent examination should be made.

The growing of cultures and animal tests is scarcely available to the general practitioner except in larger cities with laboratory facilities, but the use of the centrifugal machine should not be omitted if ordinary staining methods fails.

In the absence of the tubercle bacilli and of the positive physical signs, on what are we to base our circumstantial evidence strongly enough to justify us to urge our patient to interrupt at once his means of getting a livelihood for himself and his family or to renounce the pleasures and comforts which affluency can provide, leave home, friends and associates, and start out in quest of health? Surely a grave responsibility is laid upon the medical adviser, often intensified by the shortsighted objections of relations and friends and by the protest of the patient himself whose mental attitude prompts him to regard the physician's anxiety with doubting optimism.

It is a wise plan to suspect all patients as tubercular whose nutrition is below normal, and who are anemic and dyspeptic with a slight elevation of the afternoon temperature. If there be added some cough and night sweats and history of family predisposition or personal exposure we have established what the Germans are pleased to call "vermuthungs diagnose," that is, a "presumptive or working" diagnosis.

Our suspicions aroused, we find that in summing up the clinical evidence of suspected latent tuberculosis there are two factors to consider: (1) disposition and (2) infection. Disposition includes family and individual tendencies favoring the development of tubercle.

The family tendency, inferred by a history of several members having had the disease, was, before the discovery of the tubercle bacilli, regarded as one of the strongest points of evidence in favor of tuberculosis in the offspring. While such innate tendencies should receive our most careful consideration, is it not more probable that the continuous exposure of members of the same family harboring a consumptive is the cause of the development of the disease; in other words, family infection rather than disposition?

In the personal history indicating a disposition to acquire tuberculosis we consider:

1. The age, which between 16 and 30, is recognized as the period at which the disease is most likely to develop.

2. The occupation, if sedentary and interfering with free expansion of the thorax, as in tailors, shoemakers, harnessmakers, etc.

3. Unfavorable hygienic surroundings. Indoor occupations in ill-ventilated rooms and dust-laden atmospheres, as in elevators and mills.

4. Previous illness, more especially if of tubercular character in other organs, as suppurating glands and bones; also diseases of the respiratory system and asthenic diseases, as influenza, measles, pneumonia, typhoid, and diabetes. The insane are peculiarly liable to tubercular infection.

The tall, slim boy with transparent skin, peaked nose, translucent ears, prominent pomum adami, and stooping gait, is readily picked out by the laity as liable to phthisis.

On the contrary, individuals appearing in perfect health may show, on closer scrutiny, indications of deficient development. Chief among these are abnormal chest formations with shortening of the upper costal cartilages and a small heart.

It is not practicable to draw a sharp line between disposition and the initial symptoms and signs of infection. In view of the large percentage of persons that are tuberculous it seems but reasonable to assume that some manifestations classed as predisposing are in fact early indications of infection. These are persistent dyspepsia, anemia, and loss of weight. In the fe-

male we often meet suspension of menstruation.

The change in the psychical character of the tuberculous is not usually pronounced at first. Unusual irritability and unreasonable optimism concerning his illness are, however, not uncommon.

Early signs referable to the vasomotor system are the dilation of the pupils, sometimes limited to the affected side, red cheeks and ears, pallor on exertion, and tachycardia.

The disturbances of the heat-producing mechanism are undoubtedly due to infection. The dropping of the morning temperature and the afternoon rise are of great diagnostic significance. In doubtful cases the temperature should be taken every two hours in the rectum. At times the rise occurs only after mental exertion, an exciting game for instance, or after physical exercise. The slight fever may not be suspected, while another cardinal symptom, the dreaded night sweat, cannot escape notice. To these general indications are soon added those which localize the disease.

Vague pains between the shoulders, usually called rheumatic, or stitches in the sides, a slight roughness or hoarseness of the voice, and especially a cough, slight and hacking, apparently a clearing of the throat, but sometimes violent and spasmodic, point to the pulmonary organs as the locus morbi. The appearance of blood, coughed up, light and frothy, is to the alarmed patient a sure sign of consumption. If it cannot be traced to hyperemia or varices of the upper air passages, hysterical hemoptysis, vicarious menstruation or ulceration from foreign bodies, or aneurism, the presence of a tubercular affection becomes more than presumptive.

In our examination of the patient we should be systematic and thorough.

After observing the general appearance, habitus, and complexion, we note the pliability of the hair, the condition of the sclera and pupil (the cerulean eye and mydriasis), the hyperemia of the cheeks and ears, often in marked contrast to the pallor of the mucous membrane of the lips and gums, which anemia, according to my observation, is often most striking on the under surface of the tongue. A red line at the edge of the teeth is frequently seen. The palate and pharynx appear pale.

Unless our patient is divested of all of his or her clothing to the hips, we cannot expect to make a satisfactory physical examination.

On inspection, which should be minute, we notice the state of nutrition and development, abnormal formations of the chest, the linear scars of old scarifications, the round marks of croton oil and pigmented areas from mustard plasters or blisters, indicating sometimes forgotten former ailments. The brownish-yellow, greasy blotches of pityriasis versicolor and the distended venous radicles extending from the seventh cervical to the third dorsal vertebra, a condition ascribed to the compression of the deeper veins by enlarged glands, are of diagnostic value.

Depressions or fulness of the chest regions or localized lagging of the respiratory movements are looked for.

Of some importance is the presence, diminution, or absence of the diaphragmatic shadow or Litten's sign, which is said to be diminished or absent on the affected side, even at a very early stage. I have, however, frequently noticed a free peeling off of the diaphragm in advanced apex disease.

Palpation reveals enlarged cervical and abdominal lymphatics, and sometimes small tubercular infiltration of the skin of the chest or abdomen. Retarded unilateral respiration is often better felt than seen. The strength of the heart impulse and location of the apex beat are determined by palpation.

Percussion, which is of so great importance when the tubercular deposit has become large enough (about the size of a cherry) to be detected by this method, gives but very little information in the early stage. We may ascertain by linear percussion the expansion of the lungs above the clavicle, and verify our observations of the diaphragmatic shadow by comparing the line of fullest expiration with that of deepest inspiration.

A higher pitched tympanitic note above the clavicle, indicating the localized emphysema surrounding a focus of consolidation, shows an advance of the disease beyond the incipient stage. Auscultatory percussion I have not found to be of any additional value.

The results of auscultation are the most valuable, for they show the presence of two abnor-

mal conditions, a weakened respiratory murmur, either at the apex or base, and the sibilant or subcrepitant râles of localized bronchial catarrh.

I cannot ascribe from personal experience much value to the interrupted or jerky, so-called cog-wheel, inspiration, which, it semes to me, is but natural in the usual nervous condition of the person examined.

Of all physical signs a persistent râle, subcrepitant, crepitant, or sibilant, heard on inspiration over a localized area of the apices, is of the greatest diagnostic importance.

Adventitious sounds below the clavicles may be caused by compressed bronchi from enlarged glands. Muscular sounds and the dry râles caused by distension of the free margin of the lungs, should not be mistaken for pathological manifestations.

The application of a wet pack around the thorax or the administration of potassium iodide (gr. 6, three times daily for three days) will occasionally assist in making râles audible. As both methods cause hyperemia of the lung tissue, and as the iodide especially causes an increased secretion of mucus, the râles elicited are of no importance unless localized.

As before mentioned, tachycardia occurs early. With the exception of hemic murmurs the heart sounds are normal. The heart itself is small.

The pulse is accelerated and of low tension.

I am not aware that blood examination has been helpful in diagnosis.

Albuminuria is at times an initial symptom. The phosphates are increased.

The discovery of radioscopy had awakened hopes of simplifying the diagnosis of latent tuberculosis. These expectations have not as yet been realized. To the eyes of an expert, Röntgen rays may reveal a further advancement of the disease than expected. However, two positive indications have been added to our chain of evidence by the use of the *x*-ray, the shadows of enlarged bronchial lymph glands and the deficient descent of the diaphragm on the affected side.

I quote one of the most ardent advocates of tuberculin as a diagnostic measure (Trudeau) when I say that in the great majority of cases a careful examination is sufficient to make an early diagnosis. It is not often necessary to use tuberculin, but its use gives corroborative evidence (Association of American Physicians, 1901).

After finding the rectal temperature of a suspected patient normal for two days, one milligramme of Koch's old tuberculin is injected; if no reaction is obtained the dose should be doubled and even quadrupled. If there be a slight rise of temperature the same quantity is again given after the temperature has fallen to normal. Quite commonly, a second and more pronounced rise of temperature is observed. According to Koch this second reaction, stronger than the first, is a most reliable indication of the existence of tuberculosis.

In our eagerness to diagnose we must not forget the patient.

The cause of the reaction has not been elucidated beyond a doubt.

It is not universally conceded, as some of the more enthusiastic users of the tuberculin would have us believe, that this agent is without danger, and the warning note of men known for their great experience not to use tuberculin until all other means have failed (Musser, Penzoldt, Tyson) should be heeded.

The absence of reaction proves nothing; its presence, while determining tubercular infiltration, does not indicate the location of the focus.

From the resume of the history of disposition and the symptoms and signs of early infection, it is evident that the vast majority require neither special facilities nor unusual ability for detection.

Patient and persistent investigation and systematic repeated physical examinations aided, in exceptional cases, by the use of tuberculin, will enable us to come to convincing conclusions.

Considering the universal tubercular infection of the civilized human race, we should not as in law consider our client innocent until proved guilty, but regard him as infected until the contrary is demonstrated. Our motto should be "Suspect every one, investigate accordingly."

TYPHOID VS. TUBERCULOSIS

J. A. Wyeth, (Journal A. M. A., May 6,) gives notes of two cases of tuberculosis in which the disease appears to have been arrested or cured by the occurrence of typhoid fever.

TONSILLECTOMY FOR THE GENERAL PRACTITIONER

By J. A. Watson, M. D.

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MINNEAPOLIS

So many methods have been devised for the removal of hypertrophied tonsils, and so many arguments advanced in support of each method that it is very difficult for the general practitioner at least to sufficiently concentrate his mental faculties from their necessarily wide sphere of activity for long enough to enable him to arrive at an intelligent conclusion upon the subject. It is the purpose of this article, by a concise grouping of the more salient features of the matter, and a few comparisons based upon personal experience and study, to render the task a less difficult and less time-consuming one.

After all is said and done, we will find that there are a few fundamental considerations which must have an all-determining influence upon our choice of method, and which must always be borne fully in mind in the performance of tonsillectomy. They are: 1, the facility with which the operation can be performed by the particular method under consideration; 2, the perfection of the result attained; 3, the amount of comfort secured to the patient during the operation; 4, the comparative freedom from untoward accidents and complications.

It is not contended that any consideration of these fundamental questions, however careful or intelligent or based upon however abundant data, can over-establish the superiority of any one or of any several methods in all classes of cases, but rather that there may result therefrom, not merely a clarification of our ideas, but a practical, if somewhat interdependent and interchangeable classification of both cases and methods.

From the standpoint then of any of those considerations, enlarged tonsils may be divided into (1) those that project well towards the sagittal plane, are free from the faucial pillars, more or less pedunculated or possessed of a constricted base, and perhaps somewhat pendulous character; and (2) those which present the opposite characteristics of shape and attachment. These two classes of cases are not separated by any sharp line of demarcation, but merge together through innumerable intervening degrees.

If any form of tonsillotome be accorded any place in the operation of tonsillectomy, its use should at least be restricted to the most typical cases of the first class. Bearing in mind the fundamental considerations that have been mentioned, the reasons will be at once evident. It is, indeed, in any other kind of case a mechanical impossibility to remove the diseased tissue with this instrument. But even in the cases best suited for the tonsillotome, the desired result can be attained with equal facility, even more perfectly, and with greater comfort and safety by the use of a properly constructed cold wire snare. With equal facility, because if a heavy wire be used, never less than No. 8, and preferably No. 10, the loop not only possesses sufficient resiliency to allow of any desired adjustment, but actually shows a tendency as it is closed down to adjust itself to the narrowest portion of the base of the tonsil. With a greater perfection of result owing to this very tendency to adjust itself towards the base, a tendency certainly not possessed by the tonsillotome. With greater comfort to the patient because, while the act of severance can be made just as instantaneous as with the tonsillotome, the mouth and throat are not filled by a large and clumsy instrument that gags and hurts and bruises independently of any cutting process at all. With greater safety, because, even though the process be made as instantaneous as with the cutting instrument, the bruising and compression of the vessel walls by the heavy wire is a safeguard against hemorrhage that is not to be despised. The snare possesses the additional advantage that one instrument fits all tonsils, whereas at least three sizes of tonsillotome, and better four or five, are required.

Undoubtedly the best tonsil snare to be had today is Kratzmueller's modification of Peter's snare, or, as it is generally called, the Chambers-Inskeep snare. It leaves nothing to be desired.

When the operation is performed under local anesthesia the patient should himself manage the tongue depressor. This enables the operator to pass, with his free hand, a volsellum forceps or tenaculum hook through the loop, seize the tonsil and by drawing it inward, insure a perfect adjustment and complete inclusion of the organ. The one possible disadvantage that might be urged against the snare as compared with the tonsillotome is that while it may always be possible to adjust it with greater exactitude, it is not always possible to adjust it as quickly. It is only, however, under nitrous oxide anesthesia that there is any necessity for haste in the adjustment of the loop, and if there be any force at all in the objection, it can be entirely overcome by the use of the Vedder tip furnished with the instrument. It is still true, however, that the time at one's disposal in the ordinary method of giving nitrous oxide gas is often barely sufficient to allow of a second threading of the instrument for the purpose of removing the second tonsil, and when it is desired to remove both tonsils under gas at one sitting it is well to have two snares at hand.

In cases differing from the type under consideration and approaching in any marked degree its opposite, the tonsil being partially submerged and adherent to the faucial pillars, the relative advantages of the snare over the tonsillotome are even more evident, since, even in cases where it is impossible to include in the plane of the cutting edge of the tonsillotome any considerable amount of tonsillar tissue, the wire loop, if it be heavy enough to possess the necessary resiliency can be insinuated or forced into recesses between the tonsil and the pillars which cannot by any means be made to accommodate the clumsy ring of the tonsillotome. The forcible attempt which is unfortunately sometimes resorted to, to remove with the last named instrument a sufficiently large piece to make a respectable showing to the patient and his friends, is likely to result in an injury to the pillars which will vastly increase both the patient's discomfort and the liability to hemorrhage. But when, finally, we are called upon to do a tonsillectomy in a case where the adhesion and submergence are so great as to render it impossible to surround a large portion of the tonsil by either the cutting edge of the tonsillotome or the wire loop of the snare, we must resort to dissecting it loose from its attachments and drawing it from its bed to a degree sufficient to enable us to accomplish our purpose. And, indeed, it must be observed that comparatively a very small amount of submergence or adhesion should constrain us to this preliminary dissection, since, certain authorities to the contrary, it is never a justifiable procedure to remove merely the projecting portion of a partially buried and adherent tonsil, even though such projecting portion be more than half its entire bulk. Apart from the possibility of recurrent hypertrophy, the resultant stump is likely to be a source of trouble in later years.

This preliminary dissection is carried out with the aid of volsellum forceps, scissors curved on the flat, and angular tonsil knives. It requires some patience on the part of both patient and operator. Care should be taken to inflict as little injury as possible on the mucous membrane of the pillars, and with this object in view it is advisable when necessary to leave tags of tonsillar tissue adherent to the pillars rather than to remove pieces of the latter, i. e., to cut at the expense of the tonsil rather than at the expense of the pillars. It is quite possible to complete the operation by this process of dissection and drawing the tonsil from its bed, and variously curved knives and scissors of greater or less complexity have been devised to facilitate the procedure, which is usually tedious, always painful except under general anesthesia, and never as free from risk as when the final removal is made by tonsillotome or snare.

Occasionally submerged or partially submerged tonsils can be very satisfactorily dealt with by means of an instrument known as a tonsil punch. There are various forms, perhaps the best of which is Myles'. With this instrument the tonsil is bitten away piecemeal. The instrument, however, is rather clumsy and necessitates blindly biting in the depths of the recess between the faucial pillars, since it is usually impossible to satisfactorily use a volsellum forceps at the same time.

There are cases, finally, in which neither cutting edge nor wire ecraseur is permissible, their use being forbidden by indications that point to

a greater than ordinary liability to hemorrhage. Those indications are (1) a history of being a bleeder or of belonging to a family of bleeders; (2) that particular form of hypertrophy which is characterized by an increase chiefly in the fibrous elements of the tonsil with hardness or induration; and (3) atheroma or conditions which might arouse a suspicion of vascular changes, as e. g., advanced life. In such cases we must resort to either the cautery snare or the cautery knife, or both, the former in non-adherent and non-submergent cases, the latter or both in the opposite class. The cautery snare is much more difficult to adjust than the cold wire snare, though this difficulty is obviated to a certain extent by the use of Knight's instrument. The wire should never be forced to cut, but rather allowed to burn its way through the tissue. In the submerged and adherent forms of fibrous tonsil the organ must first be dissected loose with the cautery knife and the operation finished with the cautery snare. Or the operation may be completed by cautery dissection in one or in several sittings, depending on the size of the tonsil. Very satisfactory results are sometimes attained by burning furrows in various directions, and to as great a depth as possible through the tonsil, the procedure being followed by necrosis and sloughing of at least the greater part of the organ. While it is imperative that one resort to some cautery method in the class of cases under discussion, if he wish at least to lessen the liability to the most untoward accident that can befall one who attempts this work, all cautery methods are nevertheless open to the more or less serious objections that (1) they are only a relative and by no means an absolute safeguard against hemorrhage; (2) they are much more painful, in spite of the most careful local anesthesia than ecraseur or cutting methods; (3) the throat is more painful during convalescence; (4) convalescence is protracted and complicated by the presence of necrotic and sloughing tissue; and (5) the apparatus is cumbersome, expensive, and apt to get out of order.

It is hardly ever necessary to give a general anesthetic for the removal of tonsils in adult patients. If, however, the patient should be so extremely nervous or uncontrollable as to make it imperative it should be remembered that nitrous oxide gas is the ideal anesthetic in all such cases except where a preliminary dissection is required in order to free the tonsil from the pillars. In the latter case one must choose between ether and chloroform. Under nitrous oxide anesthesia the sitting position in a dental or operating chair is safe and convenient. This anesthetic is just as suitable for children, even children as young as four or five years, as it is for adults. While it is quite possible for one who is fairly deft and skillful to remove both tonsils and adenoids, if there be such, at one sitting, the writer is opposed to the practice on the ground that it is essential to know how much primary hemorrhage there is going to be from one region before opening up another or two other bleeding areas.

If, in the case of a child, it be decided to remove both tonsils and adenoids at one operation, the anesthetic of choice is ether, since accumulated experience has proven chloroform to be peculiarly dangerous under those circumstances. The writer has a personal preference for chloroform as a general anesthetic in nearly all surgical work falling within his domain. He makes this one exception, however, basing his belief not only upon a study of the literature, but upon both clinical and private experience, several of his patients having so nearly died under carefully induced chloroform anesthesia as to teach him an unforgettable lesson, while in a many times larger experience of ether anesthesia he has never seen an alarming symptom.

Local anesthesia, however, while it rarely completely inhibits the pain of operation, is usually all that is required in adults and children over ten. When no dissection is required it is only necessary to apply a fifteen per cent solution of cocaine around the base of the tonsil. The application is to be made by means of a cotton wrapped probe, two or three times at four-minute intervals. In cases requiring dissection Schleich's solution, two per cent nirvanin solution, or one per cent cocaine solution, should be injected into the tonsil and the adjacent mucous membrane of the pillars. A long tonsil syringe is necessary for this purpose. The Schleich's solution and nirvanin solution have the advantage that comparatively large quantities can be used without danger of toxic effect. A large

amount of the solution usually escapes from the tonsil, especially when the organ is very soft and spongy, but enough is retained to produce marked if seldom complete anesthesia.

The one accident to be dreaded as a result of the operation is hemorrhage. While, doubtless, many are reckless in regard to the probability of such an event, and fail to anticipate it by proper precautions, it is nevertheless a fact that the cases in which fatal or even troublesome bleeding occurs are infinitesimal in number compared to the number of tonsillectomies performed. But it does occur occasionally, sometimes immediately following the operation, sometimes not for days or even weeks. In two cases of troublesome hemorrhage experienced by the writer, one, in a young lady, occurred five hours after operation and persisted four or five hours, being checked eventually by pressure with wads of cotton smeared with a tannic and gallic acid paste. The other, in a young man, occurred two weeks after operation and persisted for two days. It was stopped by prolonged pressure with wads of cotton wet with Monsel's solution, after similar use of other styptics, including tannic and gallic acid and adrenalin solution, had failed.

In any case of hemorrhage search should be made for its source. If a bleeding vessel can be found it should be seized by forceps and twisted or a ligature passed around it. Or it may be touched by the cautery at a dull red heat. It may be necessary to pass a suture, purse string fashion, through the tissue around it, or a small compression pad, which can be medicated with some styptic, may be held in place by suitably placed sutures drawn taut across it. The insertion of sutures, however, is always difficult and often impossible, and the much simpler procedure of pressure with the application of a styptic is nearly always efficient. Continued slight oozing is often controlled by a hypodermic of morphine, and absolute rest in the recumbent posture with the head nigh.

HOSPITAL BULLETIN

ST. BARNABAS HOSPITAL

MINNEAPOLIS

A CASE OF NEPHRITIC ABSCESS WITH GREATLY THICKENED AND DILATED URETER, FOLLOWING A GONORRHEA OF FIFTEEN YEARS BEFORE

IN THE SERVICE OF DR. FRANKLIN R. WRIGHT

Mr. M——, aged 32, entered the hospital last April. He gave a history of having had gonorrhea when 17. About six years ago he began to lose weight and to be troubled for the first time with frequent micturition. Three years ago he was in the hospital for about six weeks during which time his bladder was irrigated with boric acid. When he entered the hospital this time he was urinating seven or eight times a night and complained of chilly and feverish sensations. He had had no pain whatever. On examination an obstruction in the urethra was made out. It was impossible to pass a sound although a soft catheter readily entered the bladder. The prostate was not enlarged. The urine was full of kidney pus, but microscopically there could be discovered no casts, red blood cells, or kidney epithelium. The bladder was washed with boric acid, but at the end of three weeks he complained of a sensation of heaviness and weight in the right lumbar region. There was no acute pain and no rise of temperature. The urine continued giving the clinical pus appearance. Staining for tubercle bacilli gave negative results.

On examination the right kidney was found to be considerably enlarged, extending well below the umbilicus with a very distinct enlargement at the lower end. A diagnosis of pyelitis was made, and it was decided to operate.

At operation the kidney was found to be much enlarged, and on palpation felt cystic. At the lower end a mass was felt which, before enucleation, was thought to be a prolongation of the kidney. When the kidney was pulled up, however, this proved to be a greatly thickened and dilated ureter. The dense inflammatory tissue, which extended downward about four inches,

was of the same thickness as that of the lower end of the kidney, the entire pelvis of which was included by it. The ureter was opened by a longitudinal incision, and a probe was passed as far down as the brim of the pelvis. The urethra was catheterized, and when the bladder was emptied an irrigating point was inserted into the upper end of the ureter, and water thus washed directly through.

The kidney was opened on the convex surface. The pelvis was enormously dilated and filled with pus. A drain was inserted, and the wound packed with iodoform gauze. The ureter was closed by two sutures.

The result has been very satisfactory. Although the urine still shows pus, the bladder symptoms have entirely cleared, and the general health of the patient is much improved.

A CASE OF MENINGITIS FOLLOWING GONORRHEA COMPLICATED BY MALARIA

In the Service of Dr. Knut Hoegh

F——, aged 30, was seen in the latter part of March. He complained of the usual symptoms of cystitis, great weakness, and occasional fever. He gave the following history: gonorrhea 1 year ago, followed by a posterior urethritis that soon developed into a well marked cystitis with purulent sediment in the urine. After some weeks of unsuccessful treatment he was advised to go to Hot Springs, Ark., where he found no relief for his cystitis, but contracted intermittent fever. He came back to Minneapolis a couple of weeks before he consulted me.

He was very pale and emaciated, and evidently very feeble. His urine was acid, but contained a great amount of sediment, which in settling showed a surface layer of red color; the deeper layer being cream-colored. Color and odor normal; specific gravity 1020; some albumin, but no sugar; under the microscope pus and red blood cells. In the blood the plasmodium malariæ was found on several occasions.

The patient was immediately put upon four five-grain doses of quinine per diem, and at the same time irrigations of the bladder with boric acid solution were instituted, and an eight-grain dose of urotropin given every morning and evening.

He improved very rapidly from the more pronounced symptoms of malaria. He got rid of the fever, the secondary anemia got better, but the bladder symptoms remained very much as formerly. While there was some improvement the patient's circumstances did not allow him to stay in bed and have proper nursing at his lodgings, and I could not at first prevail upon him to go to a hospital. He thought that he was doing quite well.

One day he complained of some occipital headache; there was no soreness anywhere in the head, and no rise of temperature. This headache increased however from day to day, and finally drove him to the hospital. There was noted some stiffness of the muscles of the neck, some soreness of back; temperature and pulse gradually became elevated. The presence of plasmodium in the blood was confirmed by the hospital pathologist, Dr. Brown. There soon developed strabismus, diplopia and delirium. An acute pneumonia closed the scene. No post mortem could be obtained.

A double infection, that of gonococcus and of malaria, led to a meningitis, and finally to pneumonia. While meningitis is not unknown as a sequela of gonorrhea, it is undoubtedly very rare, and the assumption of the malaria as a co-operative factor does not seem unreasonable.

There is not much to recommend Hot Springs, Ark., as a proper place for a patient with a gonorrheal cystitis; there is a popular belief that it has a beneficial effect upon syphilis. Even if that were true it does by no means follow that it would benefit a patient with gonorrhea.

What led the physician to advise the patient in this case to go to Hot Springs, was probably a vague notion that what was good for one venereal disease might be good for another—the fact that syphilis and gonorrhea have nothing in common, but that both are usually acquired by sexual intercourse, ought to have saved the patient from a tiresome expensive, and, as events proved, dangerous journey.

In conclusion, I must add that I have in my experience never seen a case of syphilis improved at the Hot Springs that might not, and in all probability would not, have received fully as much benefit from a properly directed medical treatment at home.

NORTHWESTERN LANCET

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CANDIDATES FOR CITY PHYSICIAN

For the first time in the history of the Hennepin County Medical Society the entire organization was engaged in a medicopolitical suggestion for the benefit of the Board of Corrections and Charities. At the annual meeting, early in June, the Hon. D. P. Jones, mayor of Minneapolis, invited the society to present three or four candidates with the endorsement of the county society.

The special meeting last Monday evening was well attended. Standing room was at a premium, and every one was eager to assist in the selection. Evidently there was a feeling that the Society should not dip into politics, but the majority believed the request of the mayor should be met in the same spirit that prompted the request. An opportunity had been given for the Society to advise in the selection of a city physician, and it was done in good faith with the hope that a precedent might be established for the benefit of future mayors.

An informal ballot was taken from which the selection was finally made. Four names were presented, Dr. E. H. Beckman, Dr. W. D. Shelden, Dr. C. D. Harrington, and Dr. A. L. Wilcox. These names were to be presented to the Board of Charities and Corrections with the unanimous backing of the Society. Any one of the candidates would make a satisfactory city physician.

The homeopathic medical society was also requested to present candidates, thus giving the board at least six or eight names to select from.

The experience of the Society two years ago was not particularly encouraging. The former mayor received the names of candidates selected by a committee of the Society, but he had already selected a physician for the place, hence the request of the committee was unnecessary.

This method of selecting a city physician is quite the proper way to settle a perplexing question, and the outcome will be watched with great interest. It is very likely the mayor will keep his promise to the Society, and the Society will feel responsible for the conduct of the city physician. The mayor has qualified his promise by saying that he will not attempt to dictate to the other members of the board, hence the wire-pulling will continue until the new members are installed, and have voted. Whatever the outcome the Society will have done its duty.

HOSPITALS IN SMALL TOWNS

"American Medicine" advocates the establishment of hospitals in small country towns or districts to do away with the supposed rivalry between country and city physicians.

Physicians and county authorities who have attempted to create and organize a hospital in a town or small city will not agree with the writer of the article in American Medicine, for there are many obstacles that discourage such an enterprise in spite of the transient enthusiasm that accompanies the suggestion. The first objection is the political faction. Politics of one kind or another enter largely into the public or county hospital scheme. Everyone is anxious to lead, and nearly everyone has an individual view-point. The usual result is friction, then inertia, and the scheme falls. The next objection is cost and maintenance. To the initiated this is the main point of interest. Physicians and philanthropists of experience realize that it costs a great deal to run an institution on a proper basis; that deficits exceed profits; that people are not sick in sufficient numbers to keep a hospital on a paying basis at all times, and unless a certain number is assured for the entire year the outcome from a financial standpoint is discouraging. Private

generosity is ephemeral, and county authorities do not always share the zeal of the medical man.

The success of a hospital depends upon administrative ability, the capabilities of the manager, and the fixing of responsibility; in fact, a hospital is run on business principles, and can be successful only when well managed. The original cost of the plant and a steady, continuous income is of the greatest importance. A hospital that springs up like a mushroom with a mediocre manager or with many managers, fails before it is well started. The only possible way to insure success in the establishment of a small hospital is for a few physicians to consolidate their efforts, to select a manager who has experience and authority, to maintain strict discipline, and to give the hospital their earnest attention. It will then be self-advertising and ultimately self-supporting. To attempt to erect and run a hospital in a small town with one or two physicians to supply patients is usually a failure.

In the Northwest there have been numerous hospitals started on enthusiasm, only to be sold or rented for other purposes within a few months. The doctors disagree, jealousies arise, management and discipline are forgotten, patients refuse to be ill, bills accumulate, and the hospital declines. In a few instances the plan is maintained under pressure, perhaps barely pays expenses and finally dies from natural causes.

Private and city hospitals in large cities rarely pay more than living expenses, and the deficits are met by private subscription or municipal endowment. Occasionally, after years of labor, a public hospital has a surplus only to be consumed by additions and improvements. The best plan is to keep out of the hospital business in small towns unless the support is assured, and the community warrants the expenditure of sufficient funds to maintain the institution under all circumstances. It is a serious business and causes heartache and financial distress.

LAST CALL

The physician who expects to go to Portland on the Minnesota special train has a very short time in which to make his reservation. It cannot be done at the last day. It is now or never.

BOOK NOTICES

MEDICAL DIAGNOSIS. A Manual for Students and Physicians. By Austin W. Hollis, M. D., Attending Physician to St. Luke's Hospital; to the New York Dispensary, etc. In one 12mo volume of 319 pages, with 13 illustrations. Cloth, $1.00, net. Philadelphia: Lea Brothers & Co.

This volume appears in Lea's "Series of Medical Epitomes," and is designed a handy volume for students preparing for examinations and for physicians who wish to brush up on the entire subject of diagnosis. It gives in exact but very condensed form the essentials of the subject, and we venture to assert that no physician can carry such a volume in his pocket for occasional reading, in the cars or in the buggy, or when waiting in odd places with a few moments to spare, without finding much in it of great value. It is this continuous brushing up that keeps one in form to meet emergencies, and the physician, above all men, is most daily confronted by emergencies.

A summary of a subject is always interesting, and it is the most interesting and valuable to the man who knows most about the subject, for it enables him to classify and perhaps to clarify the details of his knowledge, and thus to put it into workable form.

The series is an admirable one, and this volume is worthy a place in the series.

INTERNATIONAL CLINICS. A Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles by Leading Members of the Medical Profession throughout the World. Edited by A. O. J. Kelly, A. M., M. D., Philadelphia. Vol. I, Fifteenth Series, 1905. Price, $2.00. Philadelphia: J. B. Lippincott Company.

We know of no better way of putting the best work of the medical and surgical profession throughout the world before the student than by the selection, by a thoroughly competent man, of such work, *after* it is performed. We lay stress upon the word *after,* because the best men sometimes write very mediocre stuff when writing to order, and when contracted for this ma-

terial generally finds its way into a book, regardless of its value.

The International Clinics are a selection, in the main, of work after it is done, and so this series of quarterly volumes has become a standard, and has reached a very large sale.

The current volume treats of a large number of subjects under the general heads of treatment, medicine, surgery, neurology, and obstetrics. It also gives an admirable review of the work of 1904 in treatment, medicine, and surgery. The literature of the medical journals of the world is thus promptly summarized, and is of course many months in advance of the work done in book form. The publishers deserve great credit for the high standard of the contents of this series, for the excellent form in which the book is gotten up, and for the low price at which it is sold.

The Medical Epitome Series, Diseases of the Eye and Ear. A Manual for Students and Practitioners. By Arthur N. Alling, M. D., New Haven, Conn., Ovidus Arthur Griffin, B. S., M. D., Ann Arbor, Mich., Victor Cox Pederson, A. M., M. D., New York. Philadelphia and New York: Lea Bros. & Co.

This is a very small book, consisting of 246 pages, covering the eye, ear, nose and throat anatomy, physiology and diseases. The authors have mentioned nearly every disease, no matter how rare, giving the etiology, pathology, cause, diagnosis, symptoms, prognosis and treatment of most of these diseases; covering such a tremendous field and mentioning nearly every disease there is necessarily a sacrifice of information and explanation. It is arranged something on the plan of the old quizz compends, and its only value would seem to be for the students to learn to answer questions parrot-like without understanding the meaning of their replies. We think it would be far better if such a subject is to be presented to the student, that the common and important diseases only be covered, leaving out the names of those diseases which most of them will never have any occasion to treat and giving them fuller information on these few diseases.

The beginner can learn little from such a work, for he desires definite explanations about those things with which he has had no experience. We can conceive that some of the blunders made by those inexperienced are due to the lack of detailed information which some physicians have secured from their text-books.

Every ophthalmologist has occasion often to observe cases of trachoma which have been maltreated with copper sulphate. The expert would apply the copper sulphate only in certain cases, and then touch the surface lightly, after which he would wash off the surplus, but the beginner with no more information than is contained in the following instructions for the medical treatment for trachoma would surely do more damage than good. "The sovereign remedy is sulphate of copper. The crystals should be rubbed over the diseased portion of the lids every day or every other day, not forgetting to go well under the tarsal cartilage into the retrotarsal fold of the upper lid. The eyes should be immediately bathed with cold water." It is possible that the author means that the surplus should be washed off with water, though it is doubtful if the reader would so interpret the last sentence.

For a small work this book is quite thoroughly illustrated, and there is hardly any subject which is not at least mentioned. We believe there is a place for small works, for students, upon the eye, but this one certainly can be much improved.

Progressive Medicine. Vol. I, March, 1905. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M. D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Octavo, 298 pages, 10 engravings and a full-page plate. Per annum, in four cloth-bound volumes. $9.00; in paper binding, $6.00, carriage paid to any address. Lea Brothers & Co., Publishers, Philadelphia and New York.

This is a valuable work that grows better with age. The current volume treats of "Surgery of the Head aid Neck," and "Thorax," "Acute Infectious Disease," "Diseases of Children," "Laryngology and Rhinology," and "Otology." Such volumes bring practical help to all practitioners, and whei the profession learns that an editor is after grain, without the chaff, his work is always welcome.

NEWS ITEMS

Dr. George Moeller has moved from Grafton to Minot, N. D.

Dr. J. B. Muir has decided to resume his practice at Hallock.

St. James' Hospital at Butte, Montana, will be enlarged at once.

Dr. Francis E. Rose, of Fargo, is in the East doing post-graduate work.

Dr. J. G. Erickson. State University, '92, has given up practice at Lafayette.

Dr. John T. Wood has moved from Hannah, N. D., to Minot, in the same state.

Dr. H. B. Noble, of Howard, S. D., has been doing post-graduate work in Chicago.

Dr. Charles Hill has returned to Pine Island after spending the winter in Texas.

Dr. W. G. Richards, a graduate of the State University, '04, has located at Sanborn.

Dr. J. C. Ash, of Willow Lake, S. D., is taking a course in eye, ear and throat work in Chicago.

Dr. William M. Pine, one of the oldest physicians in South Dakota, died at Aberdeen last month.

Dr. F. J. Bohland and family, of Belle Plaine, sailed on May 13th for an extended trip in Europe.

Dr. Charles Cappellen, who has practiced in Hastings for the past six years, has moved to Stillwater.

Dr. W. W. Mayo, of Rochester, will make a tour through Europe this summer, although he is now 84.

Dr. R. W. Meadows, of Maddock, N. D., was married last month to Miss Sara Tiegen, of Davenport, N. D.

Dr. E. C. Wheeler, of Fargo, N. D., has decided to move to Seattle, Wash. He will first go East for special study.

The $30,000 addition to St. Joseph's Hospital, at Deadwood, S. D., has been completed, and makes the hospital the largest in the state.

Dr. Clyde Bobb, who has just graduated from a St. Louis medical college, has entered into partnership with his brother, Dr. B. A. Bobb, of Mitchell, S. D.

Dr. H. P. Boardman, of Oakes, N. D., has begun work on a new hospital building, which has been made necessary by the large demand upon his old hospital for accommodations.

Dr. Frank A. Xanten, of St. Paul, died May 16th from acute nephritis. Dr. Xanten was born in Germany in 1854, and graduated from the Iowa State University in '76, and the next year began practice in St. Paul.

The physicians of Madison County, Montana, met at Virginia City last month, and organized a county medical society. The following were elected officers: President, Dr. G. F. Tiddyman, Ennis; vice-president, Dr. P. A. Sheeran, Twin Bridges; secretary and treasurer, Dr. G. H. Kennett, Virginia City.

The Minneapolis Medical Club held its final meeting of the year on May 17th. The program consisted of an informal talk by Dr. H. L. Williams on "Fractures of the Lower End of the Tibia and Fibula," illustrated by specimens and x-ray plates. Refreshments were served after the election of the following officers for the ensuing year: President, Dr. R. E. Farr; vice-president, Dr. H. L. Williams; secretary, Dr. W. H. Aurand; treasurer, Dr. S. E. Sweitzer; Board of Censors, Drs. Fred Erb, H. L. Ulrich, and C. B. Wright.

PHYSICIAN WANTED

A good town in Minnesota, situated on two railroads, wants a physician. A young Norwegian with some experience is preferred. Free office rent will be given to such a man. Address P. D. S., care of NORTHWESTERN LANCET.

HOSPITAL POSITION WANTED

A graduate nurse with hospital experience and best of references desires charge of a hospital in city or country. Address Graduate Nurse, care of THE NORTHWESTERN LANCET.

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Physician's practice and property in a thriving city of North Dakota. An established practice of fifteen years, averaging between $4,000.00 and $5,000.00 annually. For particulars, address B, care of North Western Lancet.

FOR SALE.

The proprietor of a well-established Swedish Movement Institute in Minneapolis desires to sell all or a half interest in the same to a good physician who will become its manager and director. He can also continue his private practice. Address for particulars S. M., care of THE LANCET.

NORTHWESTERN LANCET

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STERILITY IN WOMEN*

By A. W. Abbott, M. D.

Professor of Clinical Diseases of Women, University of Minnesota,

MINNEAPOLIS

In the discussion of this subject the anatomical conditions bear so close a relation to the pathological that they should be well considered.

These features are—

First, The great mobility of the uterus.

Second, That while the male has a continuous uninterrupted extra peritoneal genital tract, that of the female has a intraperitoneal hiatus between the ovary and Fallopian tube.

Third, The ovum of the female is non-motile, though about eighty times the diameter of the spermatozoön of the male, which has an active independent motility.

Fourth, The genital tract of the female is complicated, consisting of the ovary for developing the ovum, the Fallopian tube for conducting it, the uterus for embedding and developing the ovum, and the vagina for exciting the male organ.

Among the pathological influences are—

Congenital defects.
Inflammations.
Displacements.
Tumors.
Functional disorders, so called.
Bad surgery.
Impotence in the male.

The last mentioned was so ably discussed by my colleague that I will not even touch upon it.

The interruption in the continuity of the genital tract between the ovary and Fallopian tube is the most important of the anatomical causes of sterility, the ovary and tube lying, as they virtually do, in the peritoneal cavity, are exposed to the agglutinating results of peritonitis. The ovary becomes sealed up in pockets of adhesions, and the abdominal ostium of the tube closed by the same process. The ovum, if it escapes from the ovary, cannot be guided by the fimbriæ because the fimbriæ are functionally destroyed in the process that closes the tube, and the ovum is lost and absorbed in the general peritoneal cavity.

If the female genital tract were continuous and extraperitoneal, like that of the male, peritonitis would have scarcely any ill effect; in fact, that condition is closely approached in some of the marsupials and rodents, for in these the ovary is enclosed in a peritoneal sac, which prevents the ovum from escaping into the general peritoneal cavity, making the via genitalia practically continuous, as in the male.

The entire absence of independent power of motion of the ovum makes it imperative that the anatomical and physiological functions of the tube be perfect for its transmission to the uterus. This is in marked contrast to the vigorous, aggressive motility of the impregnating organism of the male.

So also the complicated arrangement of the female organs with an individual function for each, requiring that each and all are in perfect condition. The ovary must produce the perfect ovum, the ovum must be grasped by the fimbriæ and conducted into and through the normal tube, and finally deposited in a normal uterus. The vagina must be sufficiently open to allow of the spermatozoön reaching the uterus. If any of these processes fail, the whole scheme of pregnancy fails—the woman is sterile. The relatively large size of the ovum is somewhat of an offset, because it is more easily grasped by the fimbriæ than it would be if the ovum were no larger than, for instance, a red-blood cell, but it

*Read before the Hennepin County Medical Society, June 5, 1905.

is certainly of no advantage when the tube is obstructed.

Congenital Defects.—Absence of the ovaries or of the uterus, or both, is of course prohibitive of pregnancy; so also absence of ova in otherwise normal ovaries and absolute atresia vaginæ.

Undescended ovary, ovary in the canal of Nuck, bifid, or other form of undeveloped uterus, ichthyosis uteri, partial adhesion of the vagina, epispadias and hypospadias, while not absolutely prohibitive, are usually so accompanied by other defects in development that sterility is the rule.

Congenital defects are, however, comparatively rare. Sterility is due in the vast majority of cases to a previous inflammation, and that inflammation is oftenest due to gonorrhea or sepsis after criminal abortion.

We very often, in opening the abdomen in cases where there is no history whatever of inflammation and it is entirely unsuspected, discover genital adhesions of greater or less strength proving unquestionably that there has been at some time a positive inflammation. It is probable that appendicitis, gonorrhea, or an inflammation dependent on traumatism, or the exanthemata in childhood, often account for this condition. These adhesions may be so related to the ovaries and tubes that pregnancy in later life is impossible. In adult life the pelvic infections are generally easily traced from the date of exposure to the pathological conditions favoring sterility.

No single form of pelvic inflammation will certainly in every case make a woman sterile, but pelvic inflammations are very common, and from this it happens that women are sterile from pelvic inflammation oftener than from other causes.

The two kinds of inflammation most potent are due to the gonococcus and tubercle bacillus. The ordinary pus germs are probably not so destructive, partly because this sort of inflammation is more apt to be one-sided, while the gonococcus and tubercle bacillus are bilateral in their progress. The latter not only forms adhesions but also excites thickening of the tube by submucous and interstitial infiltration, and hence induces a loss of function. Women have been impregnated and given gonorrhea at the same time. A few women have borne children after having a positively identified gonorrheal or tubercular salpingitis, yet the rule is well established that if a woman has an infection of the tubes by the gonococcus or tubercle bacillus, her chances of thereafter bearing children are reduced 90 per cent or more.

A peritonitis starting from an appendicitis, typhoid ulcer, or from any cause and spreading to the pelvis, may cover the ovary with exudate, or close the tube. Syphilis favors abortion, but is not to be compared with gonorrhea in causing sterility.

Retrodisplacement of the uterus and tumors, while not a positive bar to pregnancy have a decided influence for sterility.

Submucous myomata and carcinomata of the body of the uterus are naturally the most potent.

Women who have rapidly taken on an excess of fat are often unfruitful. Some women are barren, and we cannot find the cause. They are apparently normal in anatomy, and free from inflammation and new growths. In our lack of knowledge, we call it "functional."

A change of climate will sometimes bring children; and, again, the same change will drive away the stork. Some women bear children to one mate, and have none of another equally potent. Some women never conceive until some intra-uterine stimulus is brought on as by galvanism, uterine stems, etc.

The presence or absence of the sexual feeling probably has very little to do with sterility in the female. Some women who are aggressively enthusiastic in this respect never conceive, while others who have absolutely no erotic sensation have large families.

From the above brief account of the pathology it will be seen that a hope for relief is reduced to a limited number of conditions. All cases of grave congenital defect, all cases of bilateral gonorrheal or tubercular salpingitis, and most cases dependent on new growths, except intra-uterine polypi and myomata, are hopeless.

There are certain conditions which are said by many authors to prevent conception; among these are metritis, endometritis, endocervicitis, anteflexion, excessively acid vaginal secretion, sub-involution of the uterus and congestion of the ovaries, etc. These conditions do probably have

a more or less prohibitive effect on pregnancy, yet women will quite often conceive under these very conditions, and we cannot tell beforehand by any form of examination of the organs or their secretions whether these women will become pregnant or not. I believe that it oftener happens that pregnancy cures these conditions than that the pregnancy is due to a cure resulting from treatment. Most of the cases dependent on congenital defects are not cured of sterility, even if the defect is remedied.

The opening of an atresia of the vagina is, however, quite likely to be successful as to pregnancy, if the other organs are normal. The rare condition known as ichthyosis, or psoriasis of the uterus, the epithelium of the body being squamous instead of columnar, is little known about. It is doubtful if the character of the epithelium can be changed by curettement. In one of the writer's cases the squamous epithelium returned after a most thorough and complete scraping and cauterization.

From what has been said in regard to cases caused by pelvic inflammation resulting from the simple pus germs, it is evident that no topical treatment is of any use. The only treatment that has produced results is the breaking up of adhesions, and opening the closed fimbriated end of the tube and suturing the mucosa back upon the tube so that it cannot close. The number of pregnancies resulting from this treatment are now so numerous that it is only fair that such cases should be given the chance of accepting what hope there is in the procedure.

Endometritis, subinvolution, and erosions of the cervix should receive treatment. Retrodisplacement of the uterus should be corrected.

True membranous dysmenorrhea as causing barrenness is ordinarily incurable. The cases reported as cured are probably those in which the fibrinous part of a clot is taken for membranes.

We must admit that many women have been rendered sterile by ill-advised surgery. Removal of ovaries for slight cystic disease, removal of the cortex or egg-bearing portion for pain, excision of the tube for simple closure of the fimbriæ, and violent cauterization of the endometrium are examples.

In the so-called functional sterility, all the organs being apparently normal, stimulation of the uterus by curettement, galvanism, dilatation of the cervix, etc., have proved more or less successful.

Finally, we must remember that many causes of sterility may be present in the same pelvis, and hence a minute detailed study should be accorded each case. Never submit a woman to an operation, or a long course of treatment for sterility, without making sure that the fault is not in the other side of the house.

THE FREE DISPENSARY IN THE CARE OF TUBERCULOSIS PATIENTS*

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MINNEAPOLIS

The prevention and treatment of pulmonary tuberculosis opens a wide field of activity along civic, social, and medical lines. The disease is so widespread, and affects persons in such different walks of life, living under such varied surroundings, many of whom are bound by such iron laws of necessity, that all the efforts which can be put forth by physicians, boards of health, public charities, state or national organizations, and philanthropic citizens, will be needed to free the human race of this disease.

In the consideration of tuberculosis, from whatever aspect it may be viewed, it is important to remember that we are dealing not with an acute but with a chronic disease, one whose natural history is all too imperfectly understood by the profession at the present time—a disease which has its quiescent and active stages, the

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patient to-day seemingly in restored health, to-morrow showing evidence of new foci of infection.

Bearing in mind, therefore, the nature of the malady, the methods used to combat it must, of necessity, be along lines radically different from those employed in preventing and curing acute diseases. Sanatoria do not supply all the needs of this great problem. The state or private philanthropy will not be able to care for more than a small minority of persons affected. Some provision must be made for those who are tuberculous, but whom necessity compels to remain at home; those whom the sanatorium has treated and dismissed as cured; and those who harbor the disease in stages too far advanced for sanatorium treatment. The first of these conditions was well expressed by a poor shoemaker with consumption, who came not long ago to the University Dispensary. When told that he must go into the pine woods for the summer, he replied: "Doctor, how can I go? I have a wife and children depending on me for their living; I must stay here and work for their support until I die."

As has often been said, tuberculosis is a home disease. For years to come the vast majority of the cases, especially among the poor, must of necessity be managed at home. There is no more potent agency at our command in dealing with the home treatment of the consumptive poor than the free dispensary. It makes no difference whether such a dispensary be conducted by the state, by a medical school, by a church, as an adjunct to a hospital, or by private philanthropy. It is not necessary that such a dispensary be a separately constructed building whose service is exclusively given over to the treatment of tuberculous patients, though such an institution should be able to do better and more systematic work. The dispensaries we have in the large cities of our state, and the small dispensaries which could be maintained in the small towns by the local physicians, with a lay managing-board, would meet all present demands. The free dispensary is the poor man's consulting doctor. He has been accustomed for years to go there for his walking ailments. Any of the dispensaries of Minneapolis, or of any large city in this state, could readily provide themselves properly to take care of the tuberculous poor along the most approved lines, provided the funds for maintenance were supplied. Any of the small cities and towns of Minnesota could organize and maintain at a small cost to its philanthropic citizens, or even if necessary the state itself, a small tuberculous dispensary.

Before going farther it might be well to explain exactly what is meant by a dispensary, how it carries on its work, and what has been its methods in the past in dealing with cases of tuberculosis under its charge. A free dispensary is usually organized by a hospital, a medical school, or charitable persons, to treat the worthy poor of the community in which it is located. In Minneapolis, for example, there is a large free dispensary, conducted by the State University, another by Hamline University, and several by the various hospitals of the city. The State University provides a large building for its dispensary, while the dispensaries of the various hospitals are conducted in the basements of these institutions. The attending staff is made up of practicing physicians who give their services without compensation. The service is divided into various departments, each of which treats different classes of cases. There is a surgical, medical, gynecological, nose and throat, eye and ear, skin and venereal, and children's department. Cases are assigned to the various departments by a registering clerk, who records the names of patients, their places of residence, and other data important for reference. For many years these dispensaries have been treating patients with tuberculosis, in common with those coming for other ailments. The greater majority of the tuberculous patients are assigned to the medical department, since tuberculosis of the lungs is the most prevalent form of the disease; however, cases of laryngeal tuberculosis are assigned to the nose and throat department; cases of bone tuberculosis to the surgical department; cases of skin tuberculosis (lupus) to the skin and venereal department, etc Prior to two years ago the method of handling these cases in the medical clinic was about as follows: The patients when assigned were examined, and, if tubercular, were so informed, told to be careful of their sputum, and given such advice and treatment as the clinician saw fit. Little attempt was

made to instruct these patients in modes of living, personal hygiene, and ventilation of their homes. Whether the patient carried out the instructions given by the physician was not known, as no one was available to send on a tour of home inspection. Clinical notes were kept upon the cases, but they were often meagre and not systematically made. Usually the sputum was examined, and the patient told the result. No notification of the case was made to the Board of Health. If the disease was far advanced little attempt was made to treat the case, except to ameliorate the symptoms with drug treatment.

If one might be interested to ask what were the causes which led up to this rather careless method of dealing with these cases, the writer would answer, first, the poverty-stricken condition of the patients themselves, which made it practically impossible for many of them financially unaided to follow out the course of treatment which would offer any hope of cure; and, second, the lack of funds to carry on the work. For example, of what use would it have been to tell a consumptive mother with a large family of small children, or a tuberculous father who must provide for the household, or a shopgirl with no parents or money, or a young man whose widowed mother depended upon him for support, that he or she must go to California or New Mexico for the winter, or sleep out of doors on the veranda, when the home was a four-story tenement house, or take a quart of cream a day and a half dozen fresh eggs when the weekly wages would have bought scarcely the plain necessities of life?

It will thus be seen that physicians working in dispensaries have been at a great disadvantage in caring for the tuberculous poor. They have not been provided with the financial aid necessary to properly conduct the work.

To meet such local needs as have been stated two years ago a number of physicians and prominent business men of Minneapolis organized a Tuberculosis Committee of the Associated Charities. This committee put itself in co-operation with the free dispensaries of the city. It utilizes all the dispensaries of Minneapolis for the purpose of reaching, educating, and treating the tuberculous poor. Through its efforts there has been placed at the disposal of the Minneapolis Free dispensaries a visiting nurse who comes to the dispensary upon certain days of the week, talks over with the physicians the cases under observation, and reports upon all the details concerning the home surroundings, the financial condition, etc., of the patients.

The writer has had an opportunity to observe the working of this arrangement in practice at the University Free Dispensary now for about two years and can endorse the plan as a most effective method of dealing with the tuberculous poor. This part of our medical clinic was to us a dark chapter and a discouraging feature of our work prior to the inauguration of this new arrangement. With the assistance of the trained nurse and the financial aid which the Tuberculosis Committee has furnished the handling of these cases has become both interesting and satisfactory.

In the larger cities of our state where general dispensaries exist, it seems to the writer that separate tuberculosis dispensaries are scarcely needed. Their maintenance would only add an additional financial burden. The money expended in maintaining such institutions could be used to better advantage in caring for the patients themselves. In the smaller towns of the state where no general dispensary exists, tuberculosis dispensaries could be established. This, however, is an immaterial question. The more institutions there are for the treatment and prevention of the disease the better will be the results attained. The important end to be secured is that the work be carried on through each and all of the dispensaries, so that the greatest number of tuberculous patients will be reached and cared for.

The general tuberculosis committee with its financial backing having put itself into close relations with the dispensary, what can be accomplished by the dispensary in the treatment of pulmonary tuberculosis? It can examine all suspected cases which present themselves, using every means known to medical science to detect the early stages of the disease, including the taking of a careful history of the case and keeping a record of the same, a pains-taking, complete physical examination of the patient, a bacteriological examination of the sputum, and, finally, the injection of tuberculin in the still doubt-

ful cases. This latter test, it seems to the writer, is one of the most neglected, but most helpful, agents at our command for detecting early lesions of the disease. Having made a careful examination, it can consign the incipient and curable cases to a sanatorium. If there be no sanatorium, or if for good reasons the patient cannot go away from home for treatment, it can outline and direct the home treatment of the case. At this point a vast amount of detail must be worked out in the dispensary management of these cases, and just here the tuberculosis committee of laymen and physicians through the trained nurses under its charge, comes to the help of the dispensary physician. Let me illustrate: Here is a poor patient with beginning consumption who presents himself for treatment at the dispensary. Has he relatives or children depending upon him for support? If he has, how can they be provided for while he is under treatment? If circumstances are such that he cannot leave his home, can home treatment be provided for him? If home environment is unsuitable for successful treatment, can he and his family be moved into proper surroundings for recovery? Can a tent be put up in the yard, or a bed on the veranda? Can the fire-escape or roof be utilized to keep the patient in fresh air? Can plenty of cream, eggs, and milk be provided for the patient? If the case is an advanced one, and there is no hope of cure, what are the conditions at home? Are there children in the family? Do they sleep with the sick parent? What are the measures taken to destroy the sputum? Are sputum-cups provided, and does the patient use them? Are other persons in the same family affected? All these details and a thousand more must be carefully studied out and talked over between the dispensary physician and the trained nurse, whom he can trust to visit and inspect the home surroundings. The committee likewise can furnish funds to buy sputum-cups, move patients into better surroundings, supply proper food and clothing to needy persons, etc.

Constantly in touch with the committee on the one hand and the dispensary physician on the other, the nurse prevents misguided efforts and unifies the work. There seems to the writer no special reason why all the business details connected with this work should be done at the dispensary. The patients come to the dispensary to receive their examinations and instructions from the physician. The nurse can be present to talk over the cases and receive her instructions from the physician. The other details, viz., the providing of good food, proper clothing, sputum-cups, literature of instruction, details of home ventilation, out-of-door living, etc., can be managed from quarters entirely outside of the dispensary. Given a dispensary where the cases can be examined and their treatment managed by intelligent physicians; given well trained nurses who will work in harmony with the physician and do conscientiously their whole duty, making their report to the physician and the general committee; given a committee of intelligent laymen, who will provide the funds needed to do what the nurses and physicians ask, and the dispensary treatment of the tuberculous poor is as nearly solved as it can be.

The dispensary can be of further use to the tuberculous poor in caring for those persons who, having received sanatorium treatment, are returned to their homes to take up again their respective occupations. Such persons need constant surveillance and repeated examinations from time to time. No person who has once harbored a tubercular infection should be turned loose to drift for himself. Every few weeks or months he should be required to present himself at a dispensary for examination. The results of such examinations can be carefully noted and reports made to the sanatorium physicians. Only in this way can reliable statistics be secured relative to the curative value of sanatorium treatment and only in this way can relapsing cases be detected and properly dealt with.

The dispensary has yet a third function which it can perform, viz., the care of those infected persons in whom the disease is too far advanced for any hope of cure, by any method now known. These patients, so long as their strength will permit, will come to the dispensary for examination, encouragement, relief from pain by medication, and such supportive treatment as our poor therapeutics can offer. Who would deny these individuals, fighting always a losing battle, the consolation which the dispensary, through its physician, can give? In this class of cases the value

of the services of the visiting nurse, guided by the physician's professional advice, is especially great. The furnishing of patients with sputum-boxes, instruction in the care of sputum and personal hygiene, attention to the details of the family life, sleeping rooms, ventilation, and the like, furnishing of suitable food where needed, etc.—all these things the nurses can provide with the counsel of the physician, under the direction of the tuberculosis committee.

As we have outlined in this paper, there is a large place for the dispensary in the home treatment of the tuberculous poor. The dispensary physician needs the financial backing and moral support which laymen, actively interested in the work, can give. The work, however, must proceed along broad lines. Not one but all the dispensaries of a large city must be brought into line and organize for work according to some well defined plan. The more tubercular cases placed under such a plan of dispensary treatment as is here described, the sooner will the disease be eradicated from the poor quarters of our cities and towns. In the enthusiasm of the hour over the sanatorium treatment of tuberculosis, let us not deceive ourselves. The high percentage of cures which are reported from the sanatoria of this and other countries are estimates made before sufficient time has elapsed to give positive conclusions. Not long ago the writer examined a patient in the advanced stages of pulmonary tuberculosis, who had her first hemorrhage twenty-five years ago. Who shall say that he has cured his patient because no evidence of the disease has appeared in from one to three years following a course of treatment? Reasoning from what is known of the pathology of tuberculosis, the writer would suggest that the state bend its energies more toward preventive measures and the isolation of those already infected. Build sanatoria, not only to cure patients, but also to harbor the advanced cases which are a constant source of danger to the well persons of the community.

We are dealing with a chronic disease which has fastened itself upon the human family. It will be rooted out by persistent and well organized efforts along lines mapped out by an intelligent medical profession fully understanding the pathology of the disease. The medical profession and the intelligent citizens of the community must join hands in carrying on the work.

One of the chief agencies lying at hand for the treatment of the tuberculous poor, is the free dispensary. It should be given a large place in this crusade against the "Captain of the Men of Death."

THE ANTI-TUBERCULOSIS COMMITTEE OF THE ASSOCIATED CHARITIES OF MINNEAPOLIS*

By J. G. Cross, M. S., M. D.

MINNEAPOLIS

The Anti-Tuberculosis Committee of the Associated Charities represents in Minneapolis the general crusade against tuberculosis in most civilized countries. It is not the outcome of local special needs at all, for in Minneapolis the population is comparatively free from the overcrowding of tenements and the poor hygienic and sanitary surroundings which prevail in most large cities.

The local organization does not owe its beginning to any one source. A charitable woman of Minneapolis who wished to do something to help the tuberculous poor of the city, made a subscription of $500.00, which was the nucleus of a fund privately raised and placed in the hands of the secretary of the State Board of Health. At about the same time the interest of the Minneapolis Medical Club was aroused through a paper by one of its members to a study of local conditions and the best measure for combating the disease. As a consequence of these movements, an organization was effected, which has been in operation since the beginning of 1904.

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Organization.—The Anti-Tuberculosis Committee is composed of twelve laymen and thirteen physicians. It has managing, finance, publicity, and sanatorium committees, whose titles are self-explanatory. Since the beginning of the organization it has supported and employed the entire time of a trained nurse, who visits the homes of tuberculous persons in need of instruction and help. Here she gives what instruction she can in hygiene, renders help in caring for the infected person, directs the preparation of proper food, and in general supervises the home regulations. She carries with her printed circulars, which are left in each household, plainly setting forth the necessary facts in regard to tuberculosis and its care. She is instructed to see that the tuberculous patient is under the care of his physician, or, if not, he is encouraged to consult a physician, or go to one of the free dispensaries. Where there is need for them, good food, fuel, proper clothing, and, in some cases, the means of removal to better quarters are provided. Several of the patients under the committee's care have been supplied with sanitary tents, very much to their benefit. Arrangements are now under consideration whereby the Anti-Tuberculosis Committee will be able to send worthy patients to one or another of the private sanatoria in the pine regions at a special rate, until the State Sanatorium is opened.

The work of the publicity committee is, in a few words, the education of the community in the facts known to be true of tuberculosis, and the instruction in those simple rules which tend to prevent the spread of the infection from one person to another. In this work the committee has been greatly aided by the daily newspapers of the city, by the ministers of all denominations, by the city officials, as well as by the Board of Education. The ministers have been addressed by members of the committee at their several assemblies, and have in private and public ways demonstrated their hearty co-operation. The daily papers are publishing periodically articles prepared under the direction of the publicity committee by the physicians of Minneapolis relative to the anti-tuberculosis campaign. Various circulars and reports have been gotten out under the direction of the publicity committee, which aim to present to one class or another in the community the facts we wish every one to know.

Under the direction of the school board, a four-page circular was distributed to every one of 36,000 public school pupils, with the direction from the Board of Education to carry the circular home. Several leaflets have also been prepared and distributed at some of the largest church services, attention having been called to them from the pulpit. A number of other circulars have been mailed to all city officials, clergymen, physicians, and charity workers of the city. In addition to this, the same printed matter has been mailed to lists of house-holders taken from the city blue-book. Occasionally meetings are held under the direction of the committee, at which addresses are given by men competent to present the subject of tuberculosis in its public aspect. By these means the committee believes that every person in Minneapolis has been reached directly or indirectly.

In spreading tuberculosis, homeless and transient individuals are factors which demand consideration. Cases of tuberculosis are often found in hotels, lodging houses, and boarding houses. The general hospitals will not knowingly admit a tuberculous medical case. At the City Hospital only advanced cases are received, and the only provision that can be made for them is in the contagious ward. There is need for a municipal sanatorium for tuberculosis, where these cases would receive proper care, for the public good as well as for their own welfare.

The main problem in Minneapolis, however, is presented by the family in which an individual is infected with the disease and the other members of which, ignorant of the true nature of the case, needlessly expose themselves and others. The common condition found by our visiting nurse is that of parents and children in one or two adjoining rooms, a sick person with the rest, day and night, without adequate ventilation, oftentimes with insufficient food, and, as a rule, no out-door treatment whatever. If, as is often the case, the infected person is a bread-winner for the home, the case becomes even more urgent.

The conditions in Minneapolis with reference to tuberculosis, as has been stated before, are not especially bad. In 1904, the total number of deaths in the city was 2,398; those directly

due to tuberculosis 256, or 10.6 per cent. The city health authorities of Minneapolis are in advance of those in many cities in our class. We have in force a system of registration of tuberculosis in which it is stated that the records are being largely increased as a direct result of the sentiment by the present movement. The city disinfects, fre of charge, the quarters recently occupied by a tuberculous case. Minneapolis has an excellent law against spitting in the street-cars, on side-walks, or in public places. This, through the co-operation of the courts and municipal authorities, has brought about a decided betterment of conditions easily noticeable by any one on the streets. The field of the Anti-Tuberculosis Committee is then,

First, the education of the public, as well as the individual in the truths regarding the infectious nature of tuberculosis, and the means by which the disease is transmitted. The further spreading of the facts that tuberculous patients are not a menace to those near them, if careful and properly instructed; that good food, fresh air, rest, and sunshine are the means of cure; that patent medicines are harmful; and that there are no specific cures for the disease.

Second, to find those afflicted with tuberculosis, who need help and are worthy. In this work the union with the Associated Charities organization is giving the committee the benefit of their vast information and accurate knowledge of Minneapolis population.

Third, to encourage the registration of cases of tuberculosis and of their location on its own cards, as well as those of the city health department.

Fourth, to investigate the need for a municipal sanatorium.

From a medical point of view it may be confidently expected that out of such movements as these will result a decrease in the morbidity and mortality of tuberculosis; from a sociological standpoint that the betterment of the conditions surrounding the sick will restore to usefulness and productiveness some of those now doomed. Inevitably, it must follow from the spreading of the rules, the regard for which increase the vital powers of resistance against disease, that the general health of the community as regards other diseases than tuberculosis will be improved. As far as we can judge, we are succeeding in awakening a wholesome interest in the present campaign, in instilling confidence, and decreasing the fear of tuberculosis.

DERMOID CYSTS OF THE FEMALE PELVIS, WITH REPORTS OF CASES*

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MINNEAPOLIS

There have been many and extensive investigations concerning the origin of dermoid cysts, especially of the ovaries, and many interesting chapters are to be found in medical literature upon this subject. Among the men that have made a special study of these interesting and important growths are Wilms, Bandler, Bonnet, Katsurada, Driesche, Jelke, Wilson, Morgan, Pfannenstiel, Kroemer, Arnsperger, Marchand, Olshausen, Blood, Sutton, and others.

Causes.—It was formerly believed that these developments resulted from a miscarriage of nature, and was a visitation from the gods and a manifestation of offended deity. At the present time the knowledge of their origin is little more than hypothetical.

Wilms[2] defines the dermoid cysts as follows: "The embryo of the ovary is a tumor composed of a three-fold germinal anlage ultimately derived from an ovum, which, during its development in a small cyst, is early arrested, and only succeeds to the rudiment of an embryo." He advanced the theory some time ago that these dermoids of the ovary were distinct from dermoids in other parts of the body. He believes that they are the attempt of nature on the part

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of the female at reproduction without fecundation. He believes this process "is no real parthenogenesis" which produces a complete being; it is a tumor formation in the real sense of a tumor. Just as a connective-tissue cell may form a fibroma, and epithelial cell an adenoma, mesodermal cells the mixed tumors of the uterus, the vagina, the kidneys, etc., so may a sexual cell produce an embryoid tumor and ovarian embryomata. Wilms asserts that Bandler, according to his theory of misplaced ectodermal cells, cannot explain the presence of structures of undoubted entodermal origin. Bandler[1] endeavors to prove that dermoid cysts come from the Wolffian duct, and are misplaced ectodermal cells. He tries to disprove the theory of Wilms by illustrating cases. He reports a case formed by the participation of the Wolffian canals. To support his theory he states that several dermoids may occur in the same ovary. Bandler also states: "As a further proof of the possibility of a displacement of cells may be mentioned the mixed tumors which occur in other parts of the body, as in the cervix and the vagina. We know, further, that small lipoma-like round growths occur in the kidneys, which, according to Grawitz, are to be considered as displaced pieces of fat-containing suprarenal tissue."

A number of experiments by various scientists show that small embryos or larvæ may develop from isolated blastomeres of the segmenting egg of various animals.

Olshausen says: "It should not be considered strange if nails belonging to the skin are frequently found in dermoid cysts, just as in the sheep wool has been found in dermoids, and in cows, hair, and in birds, feathers in dermoid cysts."

He also says that any other explanation for the dermoids of the ovary than is given for dermoids of other parts of the body "makes it necessary to adopt two entirely different theories as to their origin for seemingly like formations."

Arnsperger[29] believes if these growths were congenital more would be found in the autopsies of children.

Whatever the theory we may be inclined to accept as regards the origin of these most interesting tumors, we find exceptions in illustrative cases here noted. There appears to be a certain amount of truth in each theory.

Marchand, by a careful study of nine dermoid cysts, concludes the products of the ectoderm grow as a rule only in dermoid cysts, and teratomata; and to a less extent in mixed tumors. He says that no entodermal products can be present.

Division of Dermoids.—The dermoid cysts of the ovary differ from others only through their more complicated structures and through the more frequent occurrence of the dermoid prominence. They have absolutely nothing in common with a fetus, form no independent group, and are only to be divided into cystic and solid dermoids (Bandler). Other authors divided them into simple dermoid cysts, and complicated dermoid cysts, or teratomata.

Contents.—Bandler says dermoid cysts proper may contain any of the tissue derived from the ectoderm. The mixed tumors are associated with other growths, such as cysts of the Graafian follicle, adenocystomata, and other growths. According to other authors, such as Wilms, teratomata may contain tissue and rudiments of organs derived from the three germinal layers.

Wilms says the ectodermal products are the most highly developed and conspicuous in the embryo. The visceral organs are seldom seen. The further development of the complete embryo is hindered by the pressure and amount of space and degenerative changes. Wilms concludes that the so-called "dermoid of the ovary" is not a true dermoid, but is a rudimentary ovarial parasite. The arrangement of the structures resembles in a measure that of the fetus. By serial sections of the growths this complicated structure has been demonstrated. Careful search has demonstrated an increasing number of structures found, such as cardiac muscles, external skin and its appendages, entodermal tubules, cavities corresponding either to the respiratory or to the digestive tract, mucous glands, salivary glands, hyaline cartilage, bone, parts of the central nervous system, nerves and ganglia, rudimentary eyes and ears. Rudimentary extremities are not so very uncommon. The fluid content consists of fat and sebaceous matter, etc. Case No. 3 seems to bear out this statement of Wilms.

Growth and Size.—The growth of some of the cells which make up the dermoid tumor

may be at the same rate as normal tissue, and is therefore more frequently observed in adults. The size of dermoid cysts varies. They may be so small as not to be observed, or they may weigh many pounds. Ward reports a dermoid cyst weighing 30 lbs. removed from a woman 32 years of age, and the mother of two children. When a dermoid cyst contains mixed structures from two or more germinal layers, it has more of a tendency to degenerate into a malignant tissue.

Percentage of Dermoids to Other Tumors.—Olshausen reports about three and one-half per cent of dermoid cysts of all cystic growths of the ovary, and out of 2,275 ovarian tumors under all conditions he found 80 dermoids, or 3.5 per cent.

Kelly[7] states: "The relative frequency of dermoid to other ovarian tumors is 1 to 105."

McKerron mentions 862 cases of ovarian disease collected, of which 204 were dermoids.

Pregnancy.—Desirues, out of 135 operations on ovarian tumors during pregnancy, found ten on dermoids.

McKerron[6] collected the history of 162 cases of ovarian disease associated with pregnancy, and 204 had dermoid growths. A number of cases have been reported as shown under report of interesting cases.

Cause of the Cystic Portion.—Pfannenstiel[2] states that while the embryo develops from the ovum, the cystic portion is derived from the Graafian follicle.

Jelke[25] and D. Mary Jones[9] are of the same opinion and believe that the cyst is due to some irritation or stimulus.

Klein found 30 per cent of dermoids combined with other types of cysts.

Age.—Meres of Philadelphia reports a dermoid found in a girl six and one-half years old. They have been found from early infancy to old age and may exist for a lifetime.

Complications.—There is unquestionably a great danger of dermoid cysts rupturing and infecting the abdominal cavity at the time of labor. By pressure they may become adherent to the contiguous organs, such as bowel, etc. They are liable to become infected with the colon bacillus.

Diagnosis.—The diagnosis of these tumors is uncertain and impossible in many cases. However, one should remember that they are usually located more anteriorly than other cysts, being frequently situated lateral to the bladder and in front of the horn of the uterus. When they contain solid substances, such as bone and teeth, that may be felt and located in this position, a diagnosis is possible as illustrated in Case No. 1.

Some Interesting Cases Reported.—S. W. Bandler[1], Wm. F. Jelke[2], Gould & Pyle[3], Dudley[5], Pryor[14], Jos. F. Fox[21], Henry D. Beyea[24], Jelke[25], and Arnsperger[29] report dermoid of the ovaries.

L. A. Nippert, J. E. Moore[11], J. A. Sutcliffe[6], and J. B. Macauley[16] report cases of dermoids with extra-uterine pregnancy.

J. F. Mitchell[10] and J. Basil Hall[15] report dermoids of the mesentery.

Chas. F. Adams[12] reports dermoids of both ovaries.

Jacob Block and Frank J. Hall[13] report a very interesting case on dermoid of the female urinary bladder.

Dr. Fieux[17] reports a case of dermoid of ovary causing dystocia.

Barton Cooke Hirst[29] reports dermoids with gangrene.

Paul F. Munde[26] reports a dermoid ovarian cyst and rudimentary third ovary attached to the other ovary.

J. W. Withrow[18], Watkins[19], and Miles F. Porter[20] report double dermoids of the ovaries.

Simmerline[31], Wilms[32], Klein[30], and Lindsay Peters[27] report dermoids with other tumors.

Bryce J. Macaulay[23] reports dermoids complicating labor.

Case 1

Mrs. C——, aged 30, married, has had three children. Patient has complained of a great deal of pain in the back and pelvic region for several months; dysmenorrhea was quite pronounced. A cystic tumor, the size of an orange, pedunculated, movable, lateral, and anterior to the uterus, was discovered. Some portion of the tumor seemed to contain an irregular solid mass. A dermoid was suspected. An anterior vaginal incision into the pelvic cavity revealed the growth. It was quite easily removed, the pedicle being ligated. It was found to contain several teeth, quite a large ball of hair, sebaceous material, and some bony substance resembling the inferior maxilla. Sections were not made of the tumor, therefore we are unable to identify all the struc-

tures present. The convalescent period of the patient was uneventful.

Case 2

Mrs. S——, widow, aged 55, mother of several children, has always been fairly well. The patient began to have symptoms of bloating in November, 1903. The abdomen became somewhat enlarged; this subsided for a time. In February, 1904, a growth was noticed in the abdomen, and pain began to be experienced. She has been declining in flesh and general health since that time.

Upon examination, April 25, 1904, a large mass was discovered within the abdomen, which seemed to be cystic in character over the greatest portion of it. To the right and low down in the pelvis was a hard adherent mass. Temperature ranged between normal and 100°; pulse between normal and 85; hemoglobin estimate 85 per cent; white count 10,000.

An operation was performed April 29, 1904. A long incision was made. The cystic portion of the tumor was raised out of the abdomen, and removed. The hard mass below, involving the left ovary and the left side of the uterus, was adherent to the bladder in front and the small intestine behind. Adhesions to the bladder covered an area about two inches square. The growth was separated from the adherent organs by a Paquelin cautery. The extent of adhesions to the bowel was about three inches. The bowel was carefully teased away. The peritoneum was stitched over the exposed muscular coat, and the rest of the portion cauterized, where the malignancy existed. The left broad ligament was ligated and the left uterine horn was cut through, with a Paquelin cautery. The cystic portion contained a great deal of brownish fluid, cheesy substance, and a great deal of hair. The soft mass was about eight inches in diameter, and the hard mass about three inches by five inches. The patient took ether, and stood the operation well. The abdomen was closed with through-and-through sutures. The tissue removed was not well preserved, I was therefore unable to secure good slides to identify the various tissues present. It was undoubtedly a dermoid which had existed a long time and which had undergone a malignant degeneration. This patient died about a year later of a recurrence. This case amply illustrates the necessity of recognizing these growths early, and argues for an early and thorough removal.

Case 3

Mrs. H. W——, aged 39, colored, weight 131½ lbs.; occupation, cook.

Family History.—Father and mother are dead; cause unknown. Two sisters and four brothers living; all well so far as patient knows.

Previous and Present History.—Had children's diseases. She had pneumonia twelve years ago, and was very ill, and she had pneumonia again six years ago. Menstruated first at 14 years. The menstruation was painless and regular during the younger years. She was married at twenty-one years, and has had five children and one miscarriage. For about a year she has had some trouble in the right inguinal region. The pains at the menstrual periods were severe. A little nausea has attended the trouble. She has vomited considerably during the last two weeks. The local tenderness is pronounced; bowels somewhat constipated; last menstrual flow about as usual; no history of leucorrhea. The patient has had a little bladder trouble. She has lost some weight, and is very nervous.

Chief Symptoms.—Local pain, tenderness, and vomiting.

A physical examination revealed a rounded enlargement, adherent anteriorly in the left inguinal region within the pelvis. It was hard, and resistant, and seemed to be fibrous in nature; palpable both externally and by vaginal examination, but too high up to be well reached by a vaginal examination.

An operation was performed February 23, 1905. Leucocyte count 5,000. Eleven ounces of ether was given. A median incision was made. A mass was found on the right side involving omentum, cecum, appendix, and the right tube. The omentum was adherent above and in front of the mass. The tube was enlarged to three times its normal size, and situated within the center of the mass. A dermoid tumor was found in this mass containing some hair and cheesy substance. The appendix was found adherent to the upper portion of this growth, and was entirely surrounded by omentum on one side and tumor and tube posteriorly. The tumor and the tube

were separated from the mass and the appendix. The appendix was then dissected out. Some lymphatics, fat tissue, and exudate extended from the appendix into the pelvis, and was dissected out. This patient made a perfect convalescence.

Pathology of Case 3 by Dr. Margaret Nickerson

A description of gross specimen:

Gross Section.—The tumor is an irregularly shaped mass which may be roughly likened to a large moth. The mass is about four inches long, three inches deep and one and one-half inches thick. Near the upper edge of the ventral surface are found the fimbriæ, which mark the beginning of the Fallopian tube and which furnish considerable aid in locating the tube. About one inch to the left of the fimbriæ is the first real evidence of a tube, which now assumes form, and projects from the left upper extremity of the mass. The part of tube between the fimbriæ and the projecting portion of the tube is utterly unrecognizable as any anatomical structure, and when incised with a razor shows no lumen, and is involved in the neoplasm. Cheesy material, hair, and degenerated tissue occupy its site.

The tube is doubled upon itself, which makes the proximal and distal ends approach each other. From the posterior portion of the upper surface projects a papilla with constricted base. It is about the size of a large pea, and presents to the naked eye the appearance of scalp tissue showing sparse dark-colored hairs about one inch long projecting from its entire surface.

The omental fat is adherent over a good portion of the anterior, posterior and inferior surfaces. A deep razor incision about two inches long, extending from the upper to the lower edge, reveals below a mass of sebaceous-like substance containing matted hair. Above this sebaceous mass and on about the same level as the fimbriæ are two or three white, hard, smooth, resistant bodies resembling teeth in external appearance. The largest is about 4 mm. in length. The appendix, which is apparently involved in the neoplasm, presents a free distal extremity, about three-fourths of an inch in length. A free-hand section shows no lumen.

Microscopic Anatomy.—1. Appendix. Microscopically the appendix shows no lumen and no epithelial structures. A small amount of adenoid tissue suggests the probable site of the former lumen. There is present, however, a well developed layer of smooth muscle fibres which serves to locate the appendix proper from the surrounding fat.

2. Oviduct. Sections taken transversely through the proximal portion show a lumen with stellate outline. The epithelium in places shows its ordinary ciliated columnar character; in other places it is so modified as to approach the squamous type. The muscular coats are thickened concentrically, being much thicker on one side than on the other. A considerable amount of round-celled infiltration is found both in the submucosa and in the muscular layers. A large number of polymorphonuclear leucocytes are also present, especially in the submucosa.

3. The Cyst Wall. The lining is of stratified squamous epithelium and resembles strongly the epithelium covering the body except that papillæ are absent in the subepithelial connective tissue. Eleidin granules are abundantly present in the stratum granulosum, while the deeper portion of the stratum germinativum contains much pigment. The stratum corneum is well developed.

Within the corium are a large number of sebaceous glands and a few hair follicles. Solid epidermal pegs are occasionally found which probably represent the anlagen of new hairs. Deeper still is found a peculiar hollow structure with epithelial linings, the epithelium in some places being simply columnar in type; in others stratified columnar, and in still other places stratified squamous. Hyaline cartilage plates, nerve trunks containing medullated nerve fibres, and groups of large ganglion cells are found still deeper in the wall. A large amount of unstriped muscle is present. In one block a tooth about 2 cm. long was found deeply imbedded in the cyst wall, and proved a serious obstacle to the cutting of good sections.

4. Papilla. The papilla, of which a general description has been given, proved interesting upon section. It was covered with stratified squamous epithelium containing pigment in its deeper layers, and eleidin granules in the stratum granulosum. Hairs and a large number of exceedingly well developed sebaceous glands

were found. In addition there was present a peculiar glandular structure, which in some places resembled sweat glands, in other places the structure of mammary gland. This structure is probably to be regarded as mammary gland tissue.

Conclusions.—From the foregoing reports and a review of the literature, one arrives at the conclusion that dermoid cysts are more common than we are led to believe, some of them being so small at the time of operation that they may be overlooked. A careful analysis of these growths as in Case 3 indicates the presence of a great variety of tissue. The term *dermoid cyst* is somewhat confusing, as the dermoid proper is usually a solid substance, and the cystic portion is often a cyst of the Graafian follicle, due to irritation.

On account of the danger of their becoming adherent to neighboring tissues (see Case 3); because of the possibility of becoming infected; from their liability to rupture and produce peritonitis during labor; because of the tendency toward malignant degeneration (see Case 2), it is essential that all obscure abdominal growths, or all disease within the pelvis, should be carefully studied, and subjected to operation where there is any possible indication of the existence of a dermoid. By this means we avoid many dangers that beset women with these growths, and it may be possible to prevent the so-called puerperal fever in cases that are due to undiagnosed ruptured dermoid cysts at the time of labor. Many of these growths can be removed by the vaginal route when seen early.

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HOSPITAL BULLETIN

ST. BARNABAS HOSPITAL

MINNEAPOLIS

INTERCOSTAL NEURALGIA

In the Service of Dr. C. H. Hunter

Neuralgias are usually considered medical diseases and are amenable to medical treatment. A case that is obstinate should lead to exact diagnosis of the conditions, for otherwise such words as neuralgia, rheumatism, etc., may come to cover a multitude of negligences. Such surgical procedures as nerve-stretching or resection or an incision to lay bare a tumor or gland, or an encroaching periostitis often reward an exact diagnosis. One reported case, gradually incapacitating the patient, with two years of persistent pain, illustrates what is meant. A ready reference to this specific form is found in von Bergmann's Surgery.

Mr. R——, colored, aged 40, porter, has had typhoid, also malaria, but no syphilis. Has had frequent attacks of la grippe. In 1903 was in bed a month with "pleurisy stitches." Soon thereafter had pains in left side along the course of the sixth and seventh ribs at angle, and streaming forward. "Feels like tumor inside the chest." Pain severe, cutting off breath; apt to cause vomiting; not brought on specifically by his work as a Pullman porter. Beginning to use morphine.

Physical Examination.—Chest negative in-

ternally. Tenderness along 5th and 7th intercostal spaces. Most marked over 6th nerve 3 inches from vertebræ. A four-inch incision over and parallel to the 6th rib uncovered the ribs and intercostal nerves. A slight protuberance ¼ inch high and pointed, was felt at the angle of the 6th rib, not felt at the others, was clipped off. The nerves exposed were stretched. The divided muscles were sutured with silk in layers. The wound healed by first intention. This man had been submitted to various treatments—tonics, iodides, massage, electricity, and Christian Science. He has now been about his work three months without pain.

A CASE OF SUDDEN DEATH FOLLOWING OPERATION FOR APPENDICITIS COMPLICATED BY DIABETES

In the Service of Dr. G. G. Eitel

Mr. G——, aged 45, entered the hospital May 18th, with symptoms of gall bladder and appendiceal disease. With the exception of having been at one time a heavy drinker, he had been a man of average health until 1901, when he was first informed that he had diabetes. Since that time sugar has appeared intermittently in the urine, but it has always been amenable to diet, and the amount present has never been excessive.

In February, 1901, he had his first acute attack of abdominal pain, which was accompanied by the classical appendicitis symptoms. This was followed by successive attacks of varying severity, the intervening periods becoming steadily of shorter duration. During the spring of this year he has had four such attacks. They have varied somewhat from those preceding, however, in that the pain had become localized higher up in the gall bladder region, and that in the last two he had been very much jaundiced. He has been annoyed with constipation for the last two or three years.

The pain became so intense that the patient had taken to using morphine, and it was because of the danger of this habit's growing that it was determined to operate.

On examination he proved to be a well-nourished, healthy-appearing man of middle age. The abdomen was somewhat distended and very sensitive to deep pressure on the right side, the most sensitive spot being the region between McBurney's point and the gall-bladder. There was some tympany.

Two examinations of the urine for sugar gave negative results.

Operation.—An incision as for gall-stones was made. Dense fibrous adhesions were found surrounding the cystic and common ducts, and involving the small intestine. These were freed. The appendix was found above its normal position, pointing upward and bound down with adhesions. It was inflamed, and showed evidences of trouble of long standing. It was removed as usual. The wound was closed without drainage.

The patient sustained the operation admirably. His pulse was strong throughout, and he was entirely free from any nausea attending the anesthetic. The day following the operation, however, it was noted that the urine contained a considerable amount of sugar. This amount steadily increased with each twenty-four hours' examination. In every other respect his convalescence was all that could be desired until the seventh day, and he showed no constitutional symptoms from the increased sugar output. The temperature never arose above 100°, and he gave no cause for alarm whatever.

On the seventh day, however, he was extremely restless and he was permitted to sit up in a chair. Quieted, he ate an excellent dinner after which he slept. At eight o'clock that evening his temperature had risen to 100°, his pulse to 110. He spent a restless night complaining of headache.

The following afternoon his respiration and pulse became accelerated and he complained of pain in his chest. The next morning (the 8th day) his temperature was 100.6°, and I examined his chest. Some dulness and râles were made out below the angle of the right scapula. Calomel was ordered. The temperature subsided and the chest cleared up. But it was apparent that he was not quite so well. His pulse was 120 and weaker. He had no pain. Stimulants were given, and since he complained of some difficulty in breathing he was allowed to sit up. He died suddenly while sitting in his chair on the evening of the 9th day.

No post mortem was obtainable, therefore the cause of death can only be surmised. There was nothing to indicate that diabetes was the cause, and the most plausible theory would seem to be that it was due to an embolic process.

NORTHWESTERN LANCET

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JUNE 15, 1905

THE STATE MEDICAL SOCIETY MEETING

Fine weather, good attendance, and an interesting program were some of the features of the meeting June 1st and 2d.

The House of Delegates met the day before, and transacted the business of the Association.

The instructions from the county societies advocating the abolishment of contract medical practice were adopted. The opposition from individual members was not strong enough to delay the resolution. As the matter stands now the contract physician is invited to change his methods or retire from the State Association. The resolution as adopted does not apply to state and corporation salaried physicians, but does apply to, and is a direct aim at, lodge physicians—those who receive less than the minimum fee or who contract to care for individuals or families at a ridiculously low rate which is beneath the dignity of ordinary service.

Unquestionably, this resolution and the adoption will cause temporary heartache and ill-feeling for a time, but will be followed by a healthful reaction later.

The delegates also were instructed to ask the Board of Regents of the State University to demand that all candidates for admission into all the departments of medicine be required to conform to the same standard of entrance examinations. Heretofore the candidates for admission into the homeopathic department have been admitted on a much lower standard than those of the regular school. The new resolution on this subject will unify the schools effectively.

The third problem with which the delegates wrestled was the advisability of creating a medical journal to become the official organ of the state society. The Lancet had been advised that the question would eventually come up, and is not unprepared for the new move. The Council of the State Society will endeavor to reach an agreement, and make a report of what is best to be done, at the next annual meeting.

The editing and publishing of the transactions, together with their distribution, is one of the points in the establishment of a journal. There is much to be said on the subject which cannot be discussed at this time. If the funds of the State Society are to be diverted for the support of a medical journal there is reason to believe that the publication may be delayed a few years. If a careful study into the problems of medical journalism is instituted the committee of the Council will find much for digestion. Perhaps some agreement can be reached through frequent consultations.

The House of Delegates elected the following officers for the next year:

President, Dr. C. H. Mayo, Rochester.
1st Vice President,
2d Vice President,
3rd Vice President,
Secretary, Dr. Thomas McDavitt, St. Paul.
Treasurer, Dr. R. J. Hill, Minneapolis.

THE PROGRAM

The president's address reviewed the progress of the past year, and contained many suggestions. The address will be published August 1st.

The oration on surgery by Dr. W. L. Rodman, of Philadelphia, was devoted to the discussion of cancer, and will be reread at the meeting of the A. M. A., and published in the Association Journal.

The symposium on tuberculosis dealt with the state, city, and dispensary, as well as the Associated Charities point of view.

The surgical papers as usual attracted large audiences and much discussion.

The State Board of Examiners was criticised in a friendly spirit in a paper by Dr. Sweeney, of St. Paul. The members of the Board replied, and explained some of the points of attack.

Dr. Sweeney's paper was aimed at the general public and the quack forms of practice, and would be read by the public, if an opportunity offered, as an explanation of quack and regular methods with everything on the side of the regular profession. The failure of the Board to stamp out quackery is due to the inertia of the profession and the indifference of the authorities. Until both are aroused nothing substantial can be accomplished. The papers will probably be published in one or the other of the medical journals until the Council decides what can be done toward the birth of the Society's journal.

The social entertainment was the usual smoker with a vaudeville and the accompanying eatables and drinkables.

SUCH IS FAME!

The work done at St. Mary's Hospital of Rochester, Minn., has made that city better known, at least in the medical world, than many cities of a hundredfold its population; and although it has become a proverb that a prophet is not without honor (fame?) save in his own country, there is evidence that St. Mary's, if not Rochester, has been heard of among laymen near at home. A Wisconsin exchange, with the usual facility possessed by the lay press for muddling matters medical, contains the following interesting item:

> L—— R—— arrived in the city Saturday evening from Minneapolis, a full fledged doctor, having completed the prescribed course at the University of Minnesota. He leaves for Minneapolis soon to accept a position in the *St. Mayo* Hospital, where he will practice for a year or two before looking for a location.

But there are other lay journals not so happy in their ignorance, for a Minneapolis daily says Dr. C. H. Mayo, of *Duluth*, was elected president of the Minnesota State Medical Association.

NEWS ITEMS

Dr. B. K. Ellis has moved from Alpha to Eveleth.

Dr. J. O. Moeller, of Grafton, N. D., has moved to Minot, N. D.

Dr. A. S. Doe, of Fargo, N. D., has located in Bowbells, in the same state.

The hospital at Hillsboro, N. D., has been closed for lack of patronage.

Dr. E. J. French, State University, 1900, has decided to locate at Millville.

Dr. P. F. Geyerman, of Brewster, is doing post-graduate work in Chicago.

Dr. L. A. Dickman, State University, '01, has moved from Holland to Lismore.

Dr. R. R. Stevenson, of Sioux Falls, S. D., has returned from his European trip.

Dr. S. G. Gibson, of Langdon, N. D., will spend the summer in eastern hospitals.

Dr. John Wood has decided to give up practice at Minot, N. D., and move to Idaho.

The Wright Memorial Hospital of Fergus Falls will be ready for occupancy by August 1.

Dr. C. E. McCauley, of Aberdeen, S. D., is taking a six months' post-graduate course at Rush.

Dr. C. L. Larsen, Hamline, '04, has located at Buffalo, taking the practice of Dr. G. M. F. Rogers.

Dr. M. Ehrenfeld, of Vienna, has located in Anamoose, N. D., and formed a partnership with Dr. Frankl.

Dr. F. E. Walker, of Worthington, will spend the summer in post-graduate work in the hospitals of Chicago.

Dr. G. A. Landmann, of Parkston, S. D., was married last month to Miss Blinda Rosenheimer, of Kewaskum, Wis.

Dr. F. E. Burch, of Glencoe, who is now studying in Vienna, will locate in St. Paul upon his return to Minnesota.

Plans have been ordered for the new hospital to be erected by the Evangelical Lutheran Hospital Association at Mankato.

Dr. A. S. Rider, of Flandreau, N. D., is doing post-graduate work in Chicago, and will not return to North Dakota, but will locate in Iowa.

Dr. Edward von Waldau, of Tyndall, S. D., has located in Eureka, S. D. Dr. Waldau is a graduate of the University of Moskow.

Dr. R. W. Meadows, of Maddock, N. D., has bought a church building at that place and will remodel it and use it for a hospital building.

Dr. J. J. Catlin, State University, '03, who has been connected for the past year with the N. P. hospital at Missoula, Mont., has located in Buffalo.

The trustees of the State Sanatorium for Consumptives have decided not to begin work on any buildings this year because of the smallness of the appropriation now available.

Bloomer, Wis., will soon have a $10,000 hospital building under way. The citizens will raise one-half the money, and the Sisters of the Holy Redeemer will raise one-half, and will conduct the hospital.

The Lutheran Hospital Association of Fargo, N. D., was organized last month, with A. O. Fonkalsrud as president and Lars Christianson as secretary. A building will probably be completed this year.

The Dodge County Medical Society was organized last month at Dodge Center, with the following officers: President, Dr. A. L. Baker, Kasson; secretary and treasurer, Dr. E. E. Harrison, West Concord.

Dr. C. A. Klemer, of Faribault, State University, '04, was married last week to Miss Anna Burnham, of Red Wing. Dr. Klemer will spend the summer in Germany, and will locate in Mandan, N. D., in the fall.

Lincoln, Neb., is to have a medical college. It will have a capital stock of $100,000, and the State Journal of that city says the new school will "espouse the regular or allopathic system." A good espousal makes a good beginning.

The Minnesota alumni of Rush Medical College organized a state society during the meeting of the State Medical Association. The following were elected officers: President, Dr. Charles Hill; vice-president, Dr. D. M. Cool; secretary and treasurer, Dr. G. M. Coon. Thirty-two signed the roll.

The twenty-seventh annual meeting of the Montana State Medical Association met at Butte in May. The following were elected officers for the ensuing year: President, Dr. Donald Campbell, Butte; vice-president, Dr. W. W. Taylor, Kalispell; secretary, Dr. Grace W. Cahoon, Butte; treasurer, Dr. I. D. Freund, Butte.

The North Dakota State Medical Association held its eighteenth annual meeting at Grand Forks last month. The following were elected officers for the current year: President, Dr. Paul Sorkness, Fargo; vice-president, Dr. R. D. Campbell, Grand Forks; secretary, Dr. H. J. Rowe, Casselton; treasurer, Dr. J. D. Taylor, Minot.

Dr. D. C. Shipman, of Ely, won a signal victory in a damage suit which was tried last month at Duluth. Able counsel and cock-sure witnesses made out an apparently strong case against Dr. Shipman, who had set a broken leg which did not heal, but surgical testimony of the highest character showed that Dr. Shipman had done his work in a skillful manner and in accordance with the best modern practice.

Dr. George Olson, senior interne at St. Barnabas Hospital, has just returned from Washington, D. C., with his commission as lieutenant in the U. S. navy, the result of a competitive examination. These examinations are mostly oral, lasting twelve days, and the fact that of 125 applicants last year only 25 were accepted, indicates to some degree their severity. The applicants are almost entirely from the prominent Eastern schools and hospitals, and Minnesota has reason to congratulate herself on the success of her first candidate. Dr. Olson will spend six months studying in Washington next winter, as is now incumbent on all newly appointed navy surgeons.

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A good town in Minnesota, situated on two railroads, wants a physician. A young Norwegian with some experience is preferred. Free office rent will be given to such a man. Address P. D. S., care of NORTHWESTERN LANCET.

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NORTHWESTERN LANCET

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EXAMINATION OF THE FECES*

By Charles Nootnagel, M. D.

MINNEAPOLIS

This is a field in medicine scarcely entered upon by the general practitioner, but one which, with a little more investigation, promises to be as rich and positive in results as the examination of the stomach contents.

As a rule, fecal examinations are superficial, and consequently of little value in arriving at definite results in regard to the diagnosis of diseases of the alimentary tract. The general practitioner is satisfied with looking at the feces, smelling of it, and, if he venture far, stirring it, but the results thus obtained are far from what is desirable and possible. It shall be my aim in this paper to show what are the possibilities and facts which can be gleaned by a careful examination of the feces.

In order to arrive at definite and correct conclusions we must select a test-diet analogous to the test-meal in stomach examinations. This diet should contain the three foods,—fat, proteid and carbohydrate,—in proper amount and proportion to furnish the required calories for a person at rest. Different combinations of foods may be employed, but for the sake of comparing results obtained by different observers it would be well to use but one test-diet, and the following is the one usually employed in Europe for the examination of feces (the metric system is used):

Breakfast: 500 of milk and 50 of toast. If milk be not well borne we may substitute in its stead cocoa made from 20 cocoa, 10 sugar, 400 water, and 100 milk.

Lunch: Strained oatmeal prepared from 40 oatmeal, 10 butter, 200 milk and 300 water, and one egg.

Dinner: 125 chopped beef fried lightly in 20 butter, 250 mashed potato (prepared from 190 potato, 50 milk, and 10 butter).

Afternoon lunch: Same as morning meal.

Supper: Same as morning lunch.

Note.—As only three meals daily are customary in America, the same amount of food might be divided into three parts instead of into five.

Daily this diet represents 102 albumen, 111 fat, 191 carbohydrate, equalling 2234 calories. This diet is continued for three days, and in order to recognize the feces derived from this a capsule containing 0.3 pulverized carmin is given just previous to the beginning of the test-diet. The carmin passes the intestines unchanged, and marks the beginning of the diet-feces by a red mass.

The feces should be placed in a mason jar or any other tightly closed glass container, and sent to the examiner and immediately subjected to examination, as decomposition soon occurs, vitiating the results obtained.

The examination of feces naturally resolves itself into three divisions, viz.: Macroscopical, microscopical, and chemical.

Macroscopical Examination.—After observing the consistency, color, and odor the real examination begins. First of all, the feces should be intimately mixed by stirring it thoroughly with a wood, horn, or celluloid spatula before removing a piece as large as a walnut to a glass mortar; then adding a little distilled water, which is gradually increased as the mass is carefully ground up by a glass pestle, until it assumes a fluid consistency. A very thin layer of this is spread upon a black plate. Normally only small

*Read before the Minnesota Academy of Medicine, June 7, 1905.

(smaller than a pin-head) brown bodies (the cellulose from the oatmeal or pieces of the cocoa shells) should be observed.

Pathologically we may find mucus, pus, blood, parasites, connective tissue, pieces of muscle, potato, and large crystals of ammonium magnesium phosphate.

Mucus occurs in pieces so small as to be discoverable only by the microscope, or so large that they make up the greater part of the mass under examination. It usually has a vitreous appearance, but not always. It may be brown in color from being stained by bile, or it may be opaque or white from an intimate admixture of epithelial cells and fats. Very small particles of mucus can be recognized by placing a little of this finely divided feces between two glass slides, and holding it up against the light, when these particles appear transparent, and show irregular edges.

Nothnagel, in his book on diseases of the alimentary tract, mentions hyaline mucous islets and yellow mucous bodies which have since been proven by the microscope and by the addition of iodine to consist of starches.

Pus and blood occur as such when they come from the colon and rectum, and can be recognized by their usual qualities, but in order to be absolutely certain of their presence the microscope must be called into requisition. When they originate in the small intestines, or remain long in the large bowel, they are digested and unrecognizable.

Blood from the stomach and from the small intestines is always digested, and, if in any amount, imparts a tarry appearance to the feces.

Connective tissue appears as firm, yellowish-white fibres, indicating a disturbance in gastric digestion.

Remnants of muscle appear as small brown pieces, easily broken up and indicating deficient intestinal digestion.

Undigested potato appears as sago-like transparent bodies projecting above the surface of the thin layer of feces.

Microscopic Examination.—Three slides are prepared as follows: A small piece of feces being placed on each slide, and cover-glass put on, the first is spread out in a thin layer by pressure; the second is mixed with a drop of 30 per cent official acetic acid, heated to the boiling-point; the third is mixed with a drop of iodine—iodide of potassium solution (iodine 1, potassium iodide 2, distilled water 50).

Normally the first specimen shows pieces of muscle, recognizable by their yellowish color, rounded edges, and transverse striæ, large and small yellow pieces of calcium salts, and colorless soaps, scattered potato cells, cellulose from the oatmeal, and, if cocoa were used instead of milk, brownish pieces of cocoa shells. All the above are imbedded in detritis and bacteria of various kinds.

The second specimen shows small pieces of fatty acids; the large pieces of calcium salts and soaps have disappeared. If we look at this specimen while still hot, the small pieces of fatty acids have melted to drops, only to reappear again suddenly on cooling.

The third specimen, which is brown in color, shows violet (not blue) colored potato and oatmeal, starch and violet colored fungus spores.

Pathologically we find the following:

In the first specimen pieces of muscle more numerous and better preserved (sharp edges and well marked transverse striæ), drops of neutral fats, needles of fatty acids and soaps, numerous potato cells with more or less well preserved starch granules, ova of intestinal parasites, pus, blood, mucus, connective tissue, etc.

In the second specimen: Numerous irregular pieces of fatty acids and threads of mucus, the latter become more noticeable, whereas the connective tissue fibres disappear through the action of the acetic acid.

In the third specimen: Blue starch granules (either free or enclosed in potato cells), blue or violet fungus spores and bacilli, and yellow yeast fungi.

Chemical Examination.—For all practical purposes it is sufficient to test the reaction of the feces, to carry out the corrosive sublimate test, fermentation test, and blood test, and examine for dissolved albumen.

In order to test the reaction, which should be amphoteric or slightly acid or alkaline, we place two pieces of litmus paper, one red and the other blue, upon the surface of the well ground up fluid feces (as prepared for the macroscopical test), and the resulting change of color in the

litmus paper will indicate the reaction, or, if no change of color occur, the reaction is amphoteric.

The corrosive sublimate test is carried out in the following manner: Place equal parts of a concentrated aqueous solution of corrosive sublimate and well ground up fluid feces in a test-tube; shake, and allow to stand for twenty-four hours. The normal feces becomes red (hydrobilirubin). Green particles, even if microscopical in size, are pathological and indicate unchanged bile pigment (bilirubin).

Fermentation Test.—Take 5 grammes of thoroughly mixed fresh feces (without water); place in bottle of Strasburger's fermentation apparatus; fill with water, and connect with tubes; place in incubator, and keep at a temperature of 37°C. for twenty-four hours. At the end of this period, note the amount of gas evolved, open the bottle, and test the reaction of fecal mixture, and compare this with the reaction before the test.

Normally only very little gas is evolved, and the original reaction of the feces does not change. If enough gas be evolved to fill the connecting tube, one-third or more, pathological conditions are present.

Carbohydrate fermentation produces an acid reaction in the feces, while decomposition of proteids produces an alkaline reaction. In the former case we find an odor of butyric acid, while in the latter an intense odor of decomposition. Fermenting feces becomes lighter in color, while that of decomposition becomes darker.

Soluble Albumen Test.—Take feces as prepared for macroscopical examination, and filter through double filter until clear. To filtrate add enough acetic acid to re-dissolve the precipitate (nucleo-proteid) appearing at first; then add a drop of ferrocyanide of potassium solution. A visible precipitate indicates albumen, and a pathological condition in the alimentary tract interfering with normal digestion.

Blood Test.—Add to 5 grammes of feces 3 grammes of glacial acetic acid, and 2 grammes of ether; shake vigorously, and allow to stand until the upper part of the mixture has become clear; pour about 30 drops of the clear part into a test-tube; add a little finely pulverized gum guaiac and about 30 drops of ozonized (old) turpentine. If blood be present, the mixture will turn to a bluish violet, and if absent, to a reddish-brown color.

Rossel's test for blood is said to be even more sensitive than the above. In order to economize on space and time, I must refer to my paper on gastric ulcer in the Transactions of the Minnesota State Medical Society of 1904, where a detailed account of this test is given.

Pathological Conditions Indicated by the Examination of Feces.—Mucus in the stools indicates an inflammation of the mucous membrane somewhere in the alimentary tract.

There are two exceptions to this, viz.: a fine coating of mucus on scybala and the appearance of large masses of mucus in the feces of people, especially small children, who swallow much of the pulmonary secretion.

We can determine the origin of the mucus by its distribution in the feces and by the size of the individual masses. Large masses of mucus have their origin in the lower part of the colon and rectum; small masses intimately mixed with the feces come from the upper part of the colon, and very small particles frequently colored by bilirubin (sublimate test) come from the small intestines.

Pus is frequently found mixed with the mucus if ulceration exists in the rectum or colon. In case the ulceration occur in the small bowel, no pus passes, as it is subject to digestion and disappears.

Normally bilirubin is changed into hydrobilirubin by normal products of decomposition as soon as the intestinal contents pass the ileocecal valve. By the corrosive sublimate test hydrobilirubin becomes red, while bilirubin becomes green.

If the feces, or parts of it, is changed to green during the corrosive sublimate test, it indicates a pathological condition. It indicates either one of two things: First, a too rapid passage of the intestinal contents, or, second, nonappearance of normal products of decomposition in the colon.

If the entire feces be colored green, the small bowel is probably involved in the pathological process. This assumption becomes an established fact when we find very minute particles of mucus of the same color. An entire absence of either red or green coloration of the feces indicates a complete absence of bile.

Insufficient digestion of fats can usually be

easily recognized. Normal feces (dried) contains 23 per cent of fat, and if this amount is increased somewhat the fecal discharge is increased, its color is white or light yellow. A thin layer of fat forms at the surface when the feces is intimately ground up with water. Microscopically there is an increase in the pieces of fatty acids in the acetic acid specimen, and of fatty acid and soup crystals and drops of neutral fat in the first plain specimen.

Fatty stools are always present when there is an absence of bile in the intestines (no matter how produced). Disease of the pancreas frequently produces them, and they may also occur in intestinal tuberculosis, amyloid degeneration of intestines, etc. Of course, it is indispensable that the person under examination must eat food containing fat.

The digestion of meats occurs in the stomach and intestines. In the former the connective tissue is digested, while in the latter the muscle substance itself. Therefore, if we find, macroscopically or miscroscopically, an increase in the connective tissue in the feces, the digestive trouble is located in the stomach; whereas if an increase of muscle substance is found, the trouble is in the intestines.

Carbohydrates are subjected to digestion along the whole alimentary tract, commencing in the mouth. During the first half or three-quarters of an hour after meals starch digestion continues in the stomach, i. e., just as long as there is no free hydrochloric acid present. When the acid stomach-contents enter the bowel, and are rendered alkaline, starch digestion recommences. A deficient secretion of saliva, insufficient mastication of food, too early occurrence of free hydrochloric acid in the stomach, deficient intestinal digestion, and a too rapid passage of the food along the intestinal tract, permits starch granules to appear in the feces in greater number than normal. The presence of starch in the feces is established by the above mascroscopical, microscopical, chemical, and fermentation-test examination.

The fermentation test is used for a double purpose, i. e., to show whether starch fermentation or decomposition of proteids is present. The former usually indicates a slight disturbance, while the latter shows some serious structural change in the alimentary tract, particularly in the small intestines.

Authors consulted are, v. Leube, Boas, Ewald, Nothnagel, and Schmidt.

A SAMPLE OF QUESTIONS AND ANSWERS IN THE MINNESOTA STATE BOARD MEDICAL EXAMINATION

We give herewith the questions asked at the June examinations of the Minnesota State Board of Medical Examiners on the subject of "The Practice of Medicine," together with one of two papers receiving the highest mark (93) and the paper receiving the lowest mark (28.5). We also make editorial comments on this subject.

QUESTIONS

PRACTICE OF MEDICINE

1. Of the four commonest heart murmurs, where is each heard best, and when?

2. In a case of suspected cancer of the stomach what may be learned from an examination of the stomach contents?

3. What are the four cardinal symptoms of exophthalmic goitre?

4. Differentiate in parallel columns between renal colic and acute appendicitis.

5 Write out the clinical history of a case of acute nephritis.

6. Define urticaria and mention its commonest causes.

7. Describe the attack in each of the two principal forms of epilepsy.

8. What are the most frequent complications of measles? of scarlet fever?

9. Describe a case of locomotor ataxia.

10. What are the early secondary symptoms of syphilis?

ANSWERS

BY A 1905 GRADUATE—MARKED 93

1.—Mitral regurgitation is heard best over the apex of heart and is transmitted to axilla and around to posterior border of the scapulæ.

It is systolic in time.

Aortic regurgitation is heard in three different places.

(1) In the aortic interspace to right of sternum.

(2) At the left edge of sternum 3 interspace.

(3) Down along the left border of sternum to tip.

It is sometimes heard best in each of these places but usually heard best at left edge of sternum 3 interspace or in aortic area to the right. It is transmitted to the left border and down along the left border of sternum. Sometimes to vessels of neck. It is diastolic in time.

Mitral stenosis is heard best over the base of the heart about 3rd interspace and 4th rib. It is not transmitted, having limited area. It is presystolic in time.

Aortic stenosis is heard best in the aortic area (2nd interspace to right) and is transmitted to great vessels of neck. It is systolic in time.

Often a functional systolic murmur is heard at base and mistaken for aortic stenosis.

Aortic stenosis is not very frequent.

2.—From stomach examination can learn whether or not lactic acid is present or absent. Same of hydrochloric.

The hydrochloric acid may be reduced or absent.

1. The important thing is lactic acid. If it is found after a meal made by boiling a tablespoonful of oatmeal in a quart of water and boiling it down to a pint.

This should be given on a fasting stomach or one that has been washed out.

It should be removed in one hour and tested for lactic acid. If cancer is present lactic acid is found, or rather if lactic acid is present, it shows cancer.

2. Examining the contents if blood is present the corpuscle can be seen microscopically. They will appear in mass in the contents as coffee grounds. Blood in contents in the coffee ground appearance is a symptom of cancer.

Also microscopically some of the cancer cell may be found.

3.—Exophthalmic goitre.

(1) Exophthalmos or bulging of eyes.

(2) Rapid heart action and nervousness.

(3) Enlarged goitre.

(4) Purring sensation or thrill over the goitre.

ANSWERS TO QUESTION 4

Acute appendicitis.

(1) History of onset.

General tenderness over abdomen, finally settling in the right iliac fossa. The point of tenderness being at McBurney's point. Patient vomiting. Intestinal disturbances.

(2) Not so much.

(3)

(4) Leucocytosis usually.

(5-8) No such urinary signs.

(9) High fever.

(10) Attacks long.

Renal colic.

(1) History of onset.

The onset is more sudden. May have had many such previous attacks. The tenderness may be in right fossa but can be in left lower lumbar, etc.

It is referred along ureter and bladder.

(2) Pain is more agonizing.

(3) Pain of shorter duration, ceasing when stone passes.

(4) Not so, usually.

(5) Blood in urine.

(6) Urine diminished.

(7) May have pus in urine.

(8) Urinary signs, as cells from pelvis of kidney, pus, washed out blood cells, deposits (heavy) of oxulate triple phosphate, etc.

(9) Not so regularly.

(10) Attacks short.

5.—The attack begins quite suddenly, following perhaps some acute infectious disease as scarlet fever, measles, or after a history of exposure, severe intoxication of from lead poisoning, etc.

The urine for first seven to ten days will be decreased 400 cc to 0. The second period of ten days' urine gradually increase 400 cc to 1,500 cc. The third week it may be above normal. The first ten days the urine is bloody or smoky, high specific gravity with large amounts of albumen. The second week the urine is not of so high specific gravity, has less albumen and not so dark colored.

The third period the color is lighter, albumen reduced to one-half per cent or less.

Microscopically, first ten days. Casts: epithelial, blood, granular, hyaline, leucocytic, free blood.

Second ten days. Casts: Same as above but decreasing. In addition have fatty casts appear.

Third period. Casts gradually disappear, etc.

Physical signs:

(1) Eyelid and cheeks, feet are swollen and edematous.

(2) Pulse rapid, high tension.

(3) Respiration rapid. May have Cheyne-Stokes breathing.

(4) May have nervous symptoms such as convulsions, formication, twitching, stupor, coma, death. These are due to the uremia.

(5) Gastric symptoms are indigestion, vomiting, diarrhea.

(6) Skin: Profuse sweating. The perspiration has odor of urine.

6.—Urticaria is an affection of the skin characterized by wheel-like plateau-like elevations of skin, due to inflammation and edema.

Common causes are:

(1) Insect bites, as mosquitoes, bugs, etc.

(2) Also coming in contact with many vegetables as nettle rash, poison ivy, etc.

(3) Eating irritating foods as shell fish, strawberries.

7.—Grand Mal. Patient suddenly has convulsion which starts by a piercing cry. Then the patient falls unconscious, having involuntary muscular contractions. There is frothing from mouth. The tongue is usually bitten. After struggling a couple of minutes the patient becomes quiet, falls into a sleep or coma, which may last 20 minutes or so. The attack is preceeded by an aura.

Petit Mal. May be preceded by an aura.

The patient stops suddenly in work or conversation. The head may twist to one side. The patient does not fall but loses consciousness for the time being.

Automatic functions, as walking, etc., are carried on.

The attack may last for a few minutes or for long time so that patient may wander about for considerable distance. When consciousness is restored he can recall nothing of what has happened.

8.—Measles: Bronchitis, pneumonia, nephritis, defective eyes.

Scarlet fever: Nephritis, middle ear trouble, mastoid trouble, nasal discharge chronic.

9.—Locomotor ataxia begins by a sense of something wrong. The feet feel as if walking on feathers. They are numb and patient has much trouble going up stairs. He can't walk in dark. If he turns corners rapidly he is apt to fall. He notices that after walking some time he improves, but becomes easily tired. He makes extravagant motions with feet, bringing them suddenly to ground.

Physical examination: Patient is incoordinate; knee-jerk is absent. Argyll Roberson pupil present. Sensation is delayed and sluggish. There may be ptosis and optic atrophy. Pin hole contraction of pupils. Can see objects at a distance better than near. Bladder and rectal trouble, due to spinal sclerosis. Patient has girdle sensation about waist, lightning pains in legs, gastric crises, etc.

There are three stages: The preataxia, the ataxia, the paraplegia. The patient passes through these, finally becoming bed-ridden, has bed sores, paralysis of bladder, etc., and finally dies—all worn out or from some complication.

10.—Chancre. 21-25 days incubation: enlarged gland, secondary eruption, 8 weeks after infection, mucous patches in mouth, loss of hair in areas, with the eruption is feeling of malaise, etc., night headache, rheumatism worst at night.

The chancre is indurated. Single. 21-25 days inoculation period, has enlarged inguinal gland

with no suppuration. The base is smooth, round, sharply defined, with little discharge.

The eruption comes about 6 weeks after the chancre. It appears first on lower abdomen, gradually spreading up and down the arms. It is coffee-colored papular eruption, due to an proliferation and infiltration of skin.

ANSWERS

BY A 1897 GRADUATE—MARKED 28.5

1.—In the absence of undue excitement over the body of the heart, not always over the valves, uncertain, except regular pulsations.

2.—The nature of the exudation, whether the same is characteristic of cancer.

3.—Protuberance, tenderness, pulse, protruding of the eyeballs more or less.

4.—Renal colic:

More central, abdominal pains, urinary tract involved, urine, pain intermittent, less fever.

Appendicitis:

Pain at right side 1½ inches from the crest of the ilium on a line directed to the umbilicus.

More fever pain, constant tenderness also over the secum.

5.—Kidney pains; urine heavily laden; casts; the difference between this and Bright's disease; albuminunia.

6.—I know urticaria is a common ailment, but I can't think what it is (just now).

7.—One form, loss of sensation, the fit more pronounced and of a commoner nature, falling. The other twitching of the muscles, uncertain gait or walk.

8.—Sore throat, spinal, lung, scarlet fever, urinary and testicular.

9.—Pain in back and along the spine. At the base of brain. Power of moving, walking, etc., interfered with. Headache.

10.—Sometimes generative organs lesion, little or no pain. Oftentimes the throat is affected, redness at first, then characteristic ulcers, externally more crusts, breaking down of the sores, tendency to enlarge, becomes constitutional, a blood disease, general anemic condition. Tongue and lips often the seat of sores.

INTESTINAL AMEBIASIS—A CASE OF

By C. H. Bradley, M. D.

MINNEAPOLIS

Inflammation of the large intestine due to the pathogenic amebæ, has become relatively more frequent since more care has been taken in the examination of the stools of patients suffering from intestinal inflammation. We must still regard the disease as one arising, usually, in tropical or subtropical regions, but, after the infection once occurs, the parasite will continue to thrive, regardless of the residence of the host, though it should be said that the disease is apt to be more severe if the patient remains in the tropical region.

The method of examination of the stool for the demonstration of the ameba is very simple. Have the patient pass the material into a pan warmed to blood heat. Remove particles of this movement to a warm slide, add warm distilled water, mix, and cover. Examine with both a low and a high power. Particles that are largely mixed with blood, are more apt to show the amebæ than the mucus alone. If the patient is unable to pass material, a large catheter can be introduced after the manner suggested by Napoleon Boston (Clinical Diagnosis, page 389). A warm stage is a convenience, but not a necessity.

The amebæ are distinguished from other cells by the development of pseudopods during their movements, and also their ability to move about the field freely.

I wish to report the following case:

P. C—— came under observation on the 16th day of May, 1905. Referred by Dr. G. C. Barton.

The patient gave the following history: Age 24, single, laborer. He comes of healthy German stock, and was reared in Wisconsin and

Minnesota. No serious disease or injury. In 1899 he went to South Africa, and engaged with the Boers in the war against the British.

He stayed in South Africa until 1902, and suffered no illness while there. During the summer of 1902 he returned to the United States, and engaged with a construction company which was building a railroad in the Mississippi bottoms, 10 miles south of St. Louis.

He had been working but a few days when he developed an acute chill, followed by high fever and a severe bloody diarrhea. Was sick at St. Louis for several months. As soon as he was able to be about he went to Louisiana and Mississippi, returning to Minnesota in November, 1904. He has had the diarrhea continuously since the first attack.

The present condition is as follows: Patient is very pale, but not emaciated. Says he has from 4 to 10 stools each 24 hours, often with considerable blood. Has almost constant pain along the colon. There is some tympanites. The colon is palpable throughout its extent, and the spleen is easily felt. Blood examination gives red cells, 2,600,000; hemoglobin, 60 per cent; white cells 10,000. Temperature, 99°; pulse, 90. Patient was instructed to stool into a warm vessel, which he did after considerable straining. The movement, to the naked eye, seemed to be almost pure blood. Put under the microscope the specimen showed numerous bodies that presented all the features and movements characteristic of amebæ.

The history and findings in this case seem to me to make it palpably one of intestinal amebiasis. The blood was examined for a malarial parasite with negative results.

HOSPITAL BULLETIN

ST. BARNABAS HOSPITAL

MINNEAPOLIS

Note.—It is the purpose of the St. Barnabas physicians making reports for the Bulletin to limit them, for the next few issues, to interesting cases of appendicitis. Almost every surgeon has some individual ideas on this subject. It is probable that there are scarcely two operators who are absolutely agreed, and it is thought that by procuring as many individual expressions as possible, much of interest and something of value may accrue.

A CASE OF PERFORATIVE APPENDICITIS

In the Service of Dr. C. P. Aling

Mr. B——, aged 23, was sent to the hospital May 26th to be operated upon for appendicitis. He suffered from a very severe attack about eight months previously. This lasted about twelve days, when the patient recovered, and remained in good health until May 26th last, when he was taken with a second attack. It may be interesting to note here that his parents, being Christian Scientists, would not consider operation, which was advised when the patient fully recovered from the effects of his first attack, nor would they consider the possibility and danger of a second attack.

When last taken ill he was seen within the first 24 hours, and did not seem to be suffering a great deal. There was some pain and considerable tenderness in the appendiceal region, and the entire abdominal wall was rigid. The temperature was subnormal (96°); pulse 90 and fairly good. There was little nausea, and no vomiting.

An operation was advised and consented to by the patient. He was sent to the hospital, and operated upon about noon of the same day. The temperature, which was 96° in the early morning, was 102° at noon.

Operation.—Immediately on opening the peritoneal cavity a very large quantity of fecal-odored pus exuded. This discharged freely after the incision was enlarged; and upon being carefully swabbed away with sponges the appendix could be seen, although its greater part was bound down by adhesions. After some difficulty it was ligated at its base and amputated.

The appendix proved to have two perforations,

one near its proximal and one near its distal extremity. Two Mikulicz gauze bags were packed into the wound for drainage. The patient rallied well. On the morning following, the temperature was 99°, the pulse 98, and his general condition good. There was abundant discharge from the wound, necessitating the changing of the saturated dressings five times during the day. On the second day the dressings were changed four times. The temperature and pulse were then normal and remained so.

Gauze packing was gradually removed as conditions indicated, and the wound closed by granulation.

An interesting phase of this case is the large quantity of pus found, together with the occurrence of two perforations in the appendix within 24 hours from the time the patient first noticed any symptoms.

His recovery was complete, which may of course have been due to the absent treatment to which his Christian Science relations continued to subject him.

WHEN TO OPERATE IN APPENDICITIS

By Dr. G. C. Barton

The question of when to operate or when not to operate in appendicitis is one of judgment of the operator, for each case is so near a law unto itself that a general rule cannot apply. In a paper I recently listened to the writer advocated the idea that when a patient was seen by the surgeon in an acute attack several days after the attack had commenced he should be treated according to the Ochsner plan until the acute attack had passed, and a month or six weeks thereafter the operation should be performed. This, I believe, is very often good advice, but the question often arises, if you have the patient in the hospital, whether it is safe to the patient to allow him to return to his home, and if not, then how soon after an acute attack is it safe to operate? This cannot be settled in days, but rather in symptoms. When every evidence of the acute condition has subsided as is shown by normal temperature and pulse, absence of pain, and lessened tenderness, returning appetite, and a general appearance of well-being in the patient, then, I believe, it is safe and wise to operate. I have operated on a good many cases at this time with no fatalities. Two recent cases, however, developed stitch abscesses, showing that the infection was still active. Miss A—— was admitted to the hospital on the fourth day of the attack with a temperature of a 102° and a fraction, and pulse 120, a good deal of pain and tenderness, with rigid abdominal muscles and some distension. Under the treatment suggested above, her symptoms rapidly subsided, and in one week from the time of her admission I operated, and got a good recovery with the exception of a small stitch abscess. Mr. B—— was admitted on the third day of the attack with a temperature of 103° and pulse of 129, a very great deal of pain and tenderness, and considerable distension. His acute symptoms subsided much more slowly, so that it was more difficult to decide when it was safe to operate. In ten days after his admission, however, I operated, and found plenty of indications of active infection, and the appendix wrapped in a fold of omentum. I tied off and removed the omentum and appendix. The patient has done well, with the exception of an extensive stitch abscess, which was superficial. He will leave the hospital in a couple of days.

There is one method of treating the stump in appendicitis that I want to criticise, and that is the method of tying and cutting off the appendix, and then covering the stump with peritoneum. I had an opportunity a couple of years ago of holding an autopsy in a case where the stump had been so treated, and I found a beautiful little abscess around the stump walled in by the peritoneum. If the stump had been left free, the peritoneum would have taken care of it. If it had been inverted it would have drained into the bowel.

POISONING BY ORANGEINE

J. L. Miller, Chicago, reports in the Journal A. M. A., June 24, a death from orangeine poisoning. The patient had been warned of the danger, but persisted in using the powders. Miller calls attention to the danger to the public from having free access to such a remedy, which is advertised as harmless. The public will use it without the careful dosage which a physician would require, if he gave acetanilid. Analyses of orangeine show it to contain a large proportion of acetanilid.

CLINICAL MICROSCOPY

Conducted by George Douglas Head, M. D.

GASTRIC FINDINGS IN CASES OF LEAD POISONING

It has been known for years that an absence of free HCl from the stomach contents may be encountered in other diseases than cancer of the stomach. A list of such conditions would include cases of atrophic gastritis, chronic gastritis, gastrectasia, gastric neuroses, pernicious anemia, Addison's disease, pulmonary tuberculosis, arthritis deformans, amyloid degeneration of gastric mucosa, etc. Another condition has been added to the list by the researches of Sailer and Speese (Journal Amer. Med. Assoc., May 13, 1905). These writers, in a study of stomach contents in twelve cases of chronic lead poisoning, arrived at the following conclusions:

Summary of test-meal results: Free HCl was absent in every case. Lactic acid was present in every case. Total acidity varied from 6 to 17; the average was 11. The deficit of HCl varied from 5 to 18; the average was 11.5. Peptic digestion was absent in three cases. Oppler Boas bacilli were not found in any of the cases in sufficient numbers to suggest cancer. In the cases of achylia and subacidity abdominal pain was noted in every case except one. The authors state they have searched the literature, and can find no confirmation of their investigations.

DIAZO REACTION IN TUBERCULOSIS

In The Lancet of October 1, 1904, the writer gave a résumé of the work done to establish the value of the diazo reaction in the prognosis of pulmonary tuberculosis. The conclusion which seemed justified at that time was that the reaction was of considerable value in pointing out the cases with a fatal termination. In the British Medical Journal for May 6, 1905, Chas. W. Budden publishes the results of the repeated examination of 672 cases of tuberculosis for the diazo reaction. Of these, two were cases of acute miliary tuberculosis, and all gave the reaction. 628 were cases of chronic pulmonary tuberculosis, 83 of them giving the reaction. Six were cases of tubercular meningitis, and all reacted. Three were tubercular peritonitis, and all gave the reaction. Of the 83 giving the reaction, 60 died, 6 were unimproved, and 17 showed some improvement. Of the negative cases, 17 died, 30 remained unchanged, and 454 were improved.

In his conclusion the writer says: "The reaction is not of any value in the prognosis of chronic tuberculosis. * * * The positive cases have died, but they have been precisely those cases for whom no hope could ever be entertained. Its appearance coincides with the exacerbations of the tuberculous process, but it follows the onset of the graver symptoms, and though it disappears with improvement, such disappearance again follows the suspension of the alarming signs. Patients who have not given the reaction have mostly been in the early stages when hope is justifiable; while if it is absent in the later stages it means nothing, since its appearance is intermittent; is present one week and absent the next."

The writer gives some suggestions relative to the making of the test, which are worth noting:

1. The test cannot be performed except in good daylight.

2. The urine must be fresh, and not over twenty-four hours old.

3. The solutions are unstable. The sulphanilic acid should be renewed once a month; the sodium nitrate, once a week.

4. The solution must be measured accurately, 40 parts of sulphanilic acid to one of sodium nitrate.

By shaking vigorously the mixture the author produces a foam, and allows the ammonia to trickle down upon this.

The reaction is only positive when the foam becomes strawberry red to deep crimson.

The author's conclusions certainly are more sweeping than his findings would warrant. He assumes that it is always easy by a physical examination of a tuberculous patient to distinguish those in the third stage from those in the second or the first stage of the disease. This can be done in a majority of the cases, but there are some cases which come under observation in which the physical examinaion gives very little information as to the exact stage of the disease, and we are not all able to map out the course that the disease will take. In such cases, were a positive diazo reaction present, the prognosis would certainly be unfavorable. If it were absent, no conclusion as to the prognosis could be drawn.

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THE THERAPEUTIC VALUE OF DRY HOT AIR

Dr. Clarence Edward Skinner, in an editorial in the N. Y. Med. Jour. and Phil. Med. Jour. for May 27, calls attention to the unappreciated value of dry hot air in general practice. The apparatus for its administration is easily transportable and inexpensive. The heat may be generated by gas or gasoline, the latter being more adaptable than the former in the majority of homes.

For hospitals, or even private families, a simple method of using dry hot air may be employed by a combination of a small sheet-iron stove, a few feet of stovepipe covered by asbestos, a metal cradle to keep the bed clothing from touching the patient, and wood alcohol as the medium for heat. This method is simpler than the apparatus of Dr. Skinner, and is as effective for local or general application.

Dr. Skinner suggests that the more important conditions commonly encountered in general practice in the treatment of which local applications of dry hot air render valuable service are sprains, acute articular rheumatism, various forms of early septic infection, and pneumonia. To this list might be added states of auto-intoxication from disorders of the skin, kidneys and intestinal tract.

The administration of dry hot air at 350° F. will completely relieve the pain accompanying a sprain in half an hour. If the pain is not so relieved it is safe to conclude a fracture is present. If the sprained joint is placed in hot air within five or six hours after the accident, complete recovery will have supervened within forty-eight hours in the majority of cases.

In acute articular rheumatism, a true rheumatic fever, the results in the hot air treatment are immediate relief of pain, shortening of the attack, and diminished probability of cardiac involvement. In local septic infection the pathological phenomena will usually be abruptly arrested. In the ordinary forms of pneumonia the relief of pain and cough, and the dangers of consolidation are remarkable when a general hot air bath is applied.

The application of dry hot air in the other conditions mentioned is more effective than drugs, and may be employed over an extended period where chronic diseases are accompanied by acute exacerbations of disease. Elimination of waste products through the skin simplifies other therapeutic measures, and will produce better effects than any other form of treatment.

THE MINNESOTA STATE BOARD MEDICAL EXAMINATIONS

As is well known to our readers, Minnesota has long been a leader in the matter of a better educated medical profession. The state has taken a position so advanced of all other states that some of our leading medical colleges have been compelled, more than once, to advance their standards and lengthen their courses of instruction. The state has not escaped the usual criticism that follows reform work, and even today many harsh things are said about our State Board examiners and examinations. The best answer to all such criticisms is indisputable facts.

We are not unaware that figures may be used to prove almost anything, still we must not overlook the fact that all exact knowledge is statistical knowledge, and that a single fact may often refute a thousand surmises. The midsummer examination of our State Board furnishes more than one fact that clearly refute many of the charges made against this Board.

We publish on another page the questions

asked on the subject of the Practice of Medicine, together with the answers of two candidates, one of whom received the highest, and one the lowest, mark given in this subject. We are sure no comments are needed as to the fairness of the questions or the marks given the two papers. One other paper received the high mark of 93 in this section, while nine received 90 or higher, and three received the low mark of 50 or lower.

But it is to the general averages that we wish to call attention.

There were 105 candidates, 83 of whom received certificates and 22 failed. Their percentages (in round numbers, 80 per cent passed and 20 per cent failed) show very conclusively that the examination papers were not made unduly difficult.

Of the 22 failures, 6 received the percentage (75), or higher, required to pass, but the candidates were refused certificates because of the low marks received in the principal or more important subjects. Of these six, five were graduates of the University of Minnesota and one of a college outside of the state. Does this fact show, on the part of the Board, an undue prejudice toward the State University? Moreover, the five university graduates were regulars, and the sixth man was a homeopath. Does this show prejudice against the latter school? Charges of this character have been made very often, and yet here are indisputable facts to show how groundless such charges are.

The midsummer examination is, very naturally, of recent graduates, and so we may not safely draw inferences from the figures before us as to the chances an old practitioner has in the examination. The charge that the older man, who, it is always assumed, has long been out of touch with text-books, is at a disadvantage, must, of necessity, be true; but this is far from admitting that injustice is done the older man. On the contrary, if he is a reader of medical journals and some of the latest books, his familiarity with disease, gained in practice, should enable him to answer many questions so much more fully and clearly than the recent graduate, his standing should show a high average. When a candidate admits, as one recently did, that he never heard of the Widal test, it may safely be assumed that he has not read either a single book or a single copy of a medical journal since his graduation, and that if he finds questions in the examination which are hard to answer, he must find still harder ones at the bedside.

Of the 22 candidates who failed, 13 graduated in 1905; 5 in 1904; 1 in 1903; 1 in 1902; 1 in 1897; and 1 in 1893. The 1897 man received by far the lowest mark. The reader may draw his own inferences from these dates. We cannot see that they prove anything, one way or the other.

The examination covered 12 subjects, and the total number of questions asked was 95.

HONORABLE MENTION

South Dakota has been doing some remarkable things the past few years. Less than ten years ago many wholesale houses would not sell a bill of goods in the state, and farm mortgages were difficult to dispose of. Today things are different. The farmers have discovered that in most parts of the state, corn can be raised with as great success as in any part of Iowa. Mixed farming has become general, and it is asserted that the per capita wealth of the state exceeds that of any other state in the union. Land that sold a few years ago for one or two dollars an acre, is today worth from $25 to $50 an acre.

But South Dakota has other interests: her schools are unexcelled by those in any of the new states, and her medical laws are a model for all states.

But again: three South Dakota boys, as we learn from our news columns, stood first, second and third in the medical class of 225 members that graduated last month from the College of Physicians and Surgeons of Chicago.

Such a state is worthy of "honorable mention."

TRANSPOSITION OF THE VISCERA

W. J. Zalesky and W. A. Angwin, assistant surgeons in the U. S. Navy, report (Journal A. M. A., June 17), a case of this rather rare condition in a healthy sailor aged 18. The *x*-ray examination confirmed the conclusions deduced from the physical signs. The young man was right handed, whether from training or otherwise could not be ascertained.

REPORTS OF SOCIETIES

MINNESOTA ACADEMY OF MEDICINE

ARTHUR W. DUNNING, M. D., SECRETARY

The regular meeting of the Academy was held at the West Hotel in Minneapolis on Wednesday evening, June 7, 1905. There were 26 members present. The president, Dr. M. P. Vander Horck, was in the chair.

Dr. Cornelius Williams, of St. Paul, was elected to active membership.

Dr. F. C. Todd, of Minneapolis, reported a case of ophthalmia in a man of middle age and of unquestionably good habits. At first it seemed like a simple conjunctivitis, but it soon became worse, when Dr. White was asked to see the case, and examine the discharges. This examination showed conclusively that it was gonorrheal ophthalmia. The well eye was sealed up, but it had evidently become infected before, for it soon developed the same infection. The only source of the infection that could be traced was the fact that a short time prior to its occurrence he had slept in a country hotel where the bed linen was not claen, and had used a soiled towel. Both the man and his family were absolutely above a suspicion of any venereal disease. Dr. White stated that when he saw the case Dr. Todd had used a 35 per cent protargol solution a half hour before. He took specimens from the mucopus and from the tears also. Pneumococci were readily found, and on careful search the gonococci also.

Dr. Vander Horck asked Dr. Todd whether he had examined the man's genitals for evidence of the disease, saying he could not accept the theory that an eye infection could occur from a dry source, for instance, on the towel, as intimated in this case. We should not consider anybody free from venereal disease without having first made careful examination.

Dr. T. A. McDavitt referred to a recent case of ophthalmia in his experience in which microscopic examination showed pure cultures of pneumococci. This was a revelation to him as he had not known of a similar case.

Dr. Vander Horck asked whether there is any knowledge of such cases of conjunctivitis.

Dr. T. S. Roberts reported a case of septic endocarditis following typhoid fever in a vigorous man of middle age who had a history of cystolic murmur for years. The man had been ill for several months, and the outcome is still in doubt. The diagnosis had been very difficult. Blood cultures were taken. The fever was hectic in character, and had ranged from subnormal to 102°. He had rose-spots, and the stools had been typical of typhoid. At present the cardiac sounds remain practically the same as before this illness began. One thing that had led to the diagnosis of the septic nature of the illness was the occurrence of small inflammatory spots at the ends of the fingers and toes which came and went at short intervals. Others had occurred at the knee and hip and the shoulder, and were evidently due to small hemorrhages.

The antistreptococcus serum had been considered, but he had hesitated to use it. He asked the opinion of those present as to the advisability of using it in a case of this character.

Dr. S. Marx White demonstrated the blood cultures, both microscopically and on culture media. He described in detail the technique of taking the specimen. The thorough sterilization of the arm in a manner similar to that preparatory to larapotomy, the necessity for a very sharp needle, the direct attachment of the needle to the barrel of the syringe instead of by intervening rubber tubing, great care to insert the needle into the vein, not through it. These are some of the points emphasized. In the specimens of blood examined there were found the streptococcus pyogenes, but not in large numbers. The occurrence of typhoid fever in Dr. Roberts' case he considered an interesting element. Whether it was the cause of the septic infection itself, or whether it simply lowered the man's vitality thereby allowing the heart valves to become infected, he was unable to say. He had advised against the use of the serum in this case, because the patient was already so reduced that he feared the liberation of more toxic elements in the blood might prove too much for him.

Dr. Staples mentioned a case of typhoid fever in which there had been a pre-existing valvular lesion. The fever took on the septic characteristics, and the patient died at the end of ten weeks. In the case of a colored woman with

typical typhoid fever, in which the reaction was typical in three examinations, death occurred at nine weeks of septic endocarditis. There was a history of typhoid fever two years prior, and there had also been a pre-existing valvular lesion.

Dr. F. A. Dunsmoor referred to a recent case in Wisconsin, a man 50 years old, laborer in a sawmill, had very severe paroxysmal pain in the left loin just beneath the lower ribs. There was some fever, and the pain had been so great that he had worn out opiates, and had been given chloroform for its relief. There was blood in the urine, and renal calculus was diagnosed. Operation, however, revealed a healthy kidney and ureter. Rectal examination was then made, and a very greatly enlarged prostate was found, with an abscess in its right lobe. The gland was removed with some difficulty, and upon microscopic examination proved to be adinosarcoma. The man had neither cystitis nor gonorrhea.

Dr. Rees described a case of septic endocarditis in his experience which had made a complete recovery. The patient was a very vigorous man 35 or 36 years old. The illness had lasted from four to six weeks and was at first supposed to be typhoid. There had been hectic fever with sweats and chills. There was marked leucocytosis, but no Widal reaction. Abscess in the liver had been suspected, but trochars inserted in various directions had failed to strike pus. Finally a murmur at the apex was developed, which grew gradually more and more distinct, and the diagnosis of septic endocarditis was established. As at first stated, however, he went on to complete recovery.

Dr. Rees said that he had been pleased to hear Dr. White advise against the serum treatment, for he felt that he always wanted to use as little of any of the serums as possible, even the diphtheria antitoxin.

Dr. White asked permission to correct a possible misapprehension. He said we must distinguish between the antitoxins and the antistreptococcic serum, the latter being opposed to the germs themselves, thereby liberating in the blood more toxins. He believes in the absolute safety of antitoxins in large doses.

Dr. Dunsmoor referred to an instance in which a physician is now being sued for $12,000 for malpractice. He had given 2,000 units of diphtheria antitoxin, and some weeks later the patient had developed an abscess which ultimately proved to be tubercular. A physician in St. Louis gave his own daughter diphtheria antitoxin as a prophylactic measure, and she died from its effects. Whether these are instances of the use of an imperfect product or of imperfect technique in their administration he was not able to state.

Dr. Geo. Douglas Head asked Dr. Roberts whether there had been a leucocyte count made in the case of septic endocarditis reported. Dr. Roberts replied that it had, that it was 9,000, and that it of course signified nothing. Dr. Billings, of Chicago, had seen the case, and concurred in the diagnosis.

Dr. Head stated that he thinks the leucocyte count is an aid in ruling out typhoid fever. He then went on to speak of a case of diabetes insipidus in a child two years old, after an attack of grip. He had been unable to find satisfactory authority as to the prognosis in this condition, and asked the experience of those present in this respect.

Dr. L. A. Nippert replied that he had seen two cases of diabetes insipidus in small children, and that both had recovered. He believes it to be a matter entirely of habit. The nurse will give a child water as much and as often as it asks, and as children very easily form habits, this becomes excessive. Correct the habit of overdrinking, and the diabetes insipidus is cured.

Dr. Chas. Nootnagel then read his inaugural thesis "The Examination of Feces." The subject was discussed by Drs. Roberts, Sweetser, Nippert, Rees, Jones, and Head, and by Dr. Nootnagel in closing.

BOOK NOTICES

PROGRESSIVE MEDICINE, Vol. I, March, 1905. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M. D., Professor of Therapeutics and Materia Medica in Jefferson Medical College of Philadelphia. Octavo, 298 pages, 10 engravings and a full-page plate. Per annum, in four cloth bound volumes, $9.00; in paper binding, $6.00, carriage paid to any address. Philadelphia: Lea Brothers & Company.

The highest praise that can be given this series of volumes is to say that the current volume, the first in the year, maintains the standard of the

series. The volumes are found on almost every medical man's shelves, and their present low price should greatly extend their circulation. They certainly keep up with the rapid progress now being made in all departments of medicine and surgery, and so have become standard and quite invaluable.

Operative Surgery. By Joseph D. Bryant, M. D., Professor of the Principles and Practice of Surgery, Operative and Clinical Surgery, University and Bellevue Hospital Medical College; Visiting Surgeon to Bellevue and St. Vincent's Hospitals; Consulting Surgeon to the Hospital for Ruptured and Crippled, Woman's Hospital, and Manhattan State Hospital for the Insane, etc. In two 8vo volumes, 1527 pages. 1793 illustrations, 100 of which are in color. Sold by subscription. Price, cloth, $10.00. New York: D. Appleton & Company.

This new work now appearing in its fourth edition, thoroughly rewritten and, in fact, reset and printed from new plates, we believe will continue to hold its place as it has for a number of years as the best work upon operative surgery. This edition contains about 250 more pages than the previous edition and about 200 more illustrations. A large number of the older illustrations have been redrawn. The very latest researches upon this subject have been brought out, and the read will find in this work, operations treated and methods mentioned, which he will find in no other book or work. Special pains have been taken with the revision of "Results of Operations;" this is an important subject to the surgeon and to the general practitioner.

In the first volume the subjects of anasthesia, shock, ligature of the innominate artery, opening of the mastoid antrum, intracranial neurectomy, and goitre, have been extensively elaborated, as have also the operations for aneurism, and that for facial paralysis, special operations on the head of the humerus, paraffin injection for correcting nasal deformity, and esophagostomy, are some of the recent additions.

In the second volume the additions are of the widest scope, operations on the stomach and intestines, the newer methods of intestinal anastamosis, in which there have been material advancement of late, have been brought thoroughly up to date. There have been added the anastamoses of Connell's suture, O'Hara's forceps, Coffey's crushable potato bobbin, Harrington's segmented rings, Lundholm's forceps, and McGraw's elastic ligature; also McGraw's recent method of colectomy. Moynhihan's gastro-enterostomy, Mayo's pylorectomy, and Finney's pyloroplasty have been added. Gastropexy, gastric ulcer, epiplopexy, choledoctomy, hepatic abscess, and drainage of the bile ducts have been largely amplified. These subjects are all illustrated with new drawings, and the subjects made interesting as possible, in Dr. Bryant's clear and concise language, and where there is any doubt in the author's mind as to the real worth of an operation or method it is clearly stated.

In the text on the kidney, the recent anatomical considerations in connection with the operation of nephrolithotomy are emphasized. Nephrectomy, and wounds of the kidney have been added to, and the subjects of renal decapsulation introduced. Particular pains have been taken with the illustrations of tumors of the pancreas and subphrenic abscess; but here we might as well say, that particular pains have been taken with all of the illustrations that they may be absolutely correct.

On the topic of herniæ there are introduced Halstad's latest operation for the radical cure of inguinal, Gordon's method for the radical cure of femoral, and Blake's and Mayo's methods for the radical cure of umbilical. The chapter on the anus and rectum, and operations connected with the perineum, have been revised and rewritten by Prof. W. C. Lusk, of Bellevue Hospital, and among other changes are the introduction of Robson's anoplasty, Mitchell's operation for hemorrhoids, Quenu's perineal and abdomino-perineal proctectomy sigmoidorectostomy and anal fissure. In the consideration of prostatectomy, Watson, Proust, Alberran, and Young have been consulted. The Bottini operation for hypertrophied prostrate and Chestwood's modification have been included. On the bladder can be found Maydyl's operation for extroversion and Tildon Brown's irrigating cystscope. Becker's and others plans of action are a part of a new matter relating to the surgery of the penis.

The new things which we have mentioned above give but slight conception of the up-to-dateness of this comprehensive work. Among

the miscellaneous operations are added Blake's suture for fractured patella and also the very recent work on plastic surgery of the external ear.

NEWS ITEMS

Dr. Carl D. Kolset, '05, has located at Wendell.

Dr. G. C. Vibrance, of Watkins, died last month.

Dr. W. G. Randz, of Chicago, has located in Salem, S. D.

Dr. C. A. Yates, of Bangor, Wis., has moved to Clark, S. D.

Dr. Joseph Hawkinson, of Osceola, Wis., has moved to Morris.

Dr. Albert Thompson, of Minneapolis, has located in St. James.

Dr. D. V. Moore, of Lesterville, S. D., will move to Ponca, Neb.

Dr. R. W. Stough, a recent graduate, has located at Verona, N. D.

Dr. S. C. De Vall, of Sioux City, Iowa, has located in Garretson, S. D.

Dr. H. H. Hazeltine, formerly of Ashland, Wis., has located at Hastings.

Dr. H. J. Morrill has moved from Wahpeton, N. D., to Antler, in the same state.

Dr. E. W. Wilkinson, of De Smet, S. D., has moved to Bryant, in the same state.

Dr. J. W. B. Wellcome, of Sleepy Eye, celebrated his 80th birthday last month.

Dr. Grace Wilson Cahoon, of Butte, Montana, will spend a few months in Europe.

Dr. A. E. Henslin, of Le Roy, and Miss Mate Pinckney, of Hamilton, were married last month.

Dr. J. C. Tyvand and Miss Matilda Kortgarden, of Milton, N. D., were married last month.

Dr. W. H. Porter, of Olga, N. D., has decided to locate in one of the new towns on the "Soo" line.

Dr. A. F. Groves, of Brainerd, was quite seriously injured last month by a fall down a stairway.

Dr. Max J. Kern, of Freeport, and Miss Anna L. Welle, of the same place, were married last month.

Dr. J. J. Donovan, who has been practicing a short time at Geddes, S. D., has located in Wagner, S. D.

Dr. R. R. Hogue, of Linton, N. D., is erecting a hospital building. It will be a handsome stone structure.

Dr. Evert Rodenhuis, of Harrison, S. D., was married last month to Miss Minnie Brinks, of Pease, Minn.

Dr. La Rose, of Mandan, and Dr. Ramstad, of Bismarck, N. D., have gone to Boston for post-graduate work.

Dr. James Grassick, who has practiced in Buxton, N. D., nearly twenty years, has moved to Grand Forks, N. D.

Dr. R. W. Campbell, who has had charge of the Stillwater City Hospital for the past year, has located in Litchfield.

Dr. C. S. Langley, a graduate of Edinburg, who was with the English army in the Boer war, has located in Oacoma, S. D.

Dr. Herman Linde, Hamline, '03, has located at Cyrus, having purchased the practice of Dr. J. H. Heimark of that place.

Dr. E. M. Gans, a recent graduate of the State University, will spend a year in St. Mary's Hospital, of Duluth, as an interne.

Dr. Merton Field, of Minnesota Lake, State University, '02, was married last month to Miss Carrie E. Tambling, of St. Paul.

Dr. W. C. Chambers, a recent graduate of the State University, has been chosen physician of the state penitentiary at Stillwater.

Dr. J. T. Elliott, of Rhinelander, Wis., has decided to remain in that place, instead of moving elsewhere as he contemplated doing.

Dr. Thorsten N. Kjerland, a graduate of Hamline, class of '98, now of Webster, S. D., has been attending hospital clinics in the city.

Dr. Carl F. Haish, who has been connected for some time with St. Mary's Hospital at Webster, S. D., has moved to Watertown, S. D.

The physicians in the North Dakota counties of Williams, Ward, McHenry, Pierce and Bottineau organized a district association last month.

Dr. Walter Quinn, a graduate of the Omaha Medical College, has located at Milltown, S. D., forming a partnership with Dr. Bennett of that place.

Dr. W. S. Emerson, of Montgomery, State University, '04, and Miss Mary Sheehan of Minneapolis, were married last month in Minneapolis.

The governor of South Dakota has appointed Dr. A. A. Cotton, of Vermillion, and Dr. J. W. Freeman, of Lead, members of the State Board of Medical Examiners.

The bids for building the new hospital at Warren exceeded $25,000, which is more than the trustees want to pay, and so they will make some alterations in the plans.

Dr. W. T. Sarles, of Sparta, Wis., Dr. C. R. Lyman, of Eau Claire, Wis., and J. C. R. Lyman, of St. Paul, who were classmates at Rush, will spend four months together in Europe.

The Dodge County Medical Society was organized last month with the following officers: President, Dr. A. L. Baker, Kasson; vice-president, Dr. C. S. Bigelow, Dodge Center; secretary and treasurer, Dr. E. E. Harrison, West Concord.

Dr. J. M. Walsh, a recent graduate of the College of Physicians and Surgeons, of Chicago, has located at Fort Pierre, S. D. Dr. Walsh was brought up in South Dakota. He carried off first honors in a class of 225, and the second and third place in the same class were occupied by two other South Dakota boys.

PHYSICIAN WANTED

A good town in Minnesota, situated on two railroads, wants a physician. A young Norwegian with some experience is preferred. Free office rent will be given to such a man. Address P. D. S., care of NORTHWESTERN LANCET.

HOSPITAL POSITION WANTED

A graduate nurse with hospital experience and best of references desires charge of a hospital in city or country. Address Graduate Nurse, care of THE NORTHWESTERN LANCET.

FOR SALE

Physician's practice and property in a thriving city of North Dakota. An established practice of fifteen years, averaging between $4,000.00 and $5,000.00 annually. For particulars, address B, care of North Western Lancet.

PHYSICIANS LICENSED AT THE JUNE (1905) EXAMINATION TO PRACTICE IN MINNESOTA

We publish this list in this form at the request of the State Board of Medical Examiners, in order that the names may be pasted in the Official Register, copies of which are sent free by the Board to anyone who applies for the same and remits five cents to pay the postage.

Arzt, Philip G. (R); Uni. of Minn., 1905; June 17, 1905.....St. Paul, Minn.
Austin, W. J. (R); Uni. of Minn., 1905; June 17, 1905.....Watkins, Minn.
Arneberg, J. G. (R); Uni. of Minn., 1905; June 17, 1905..Grand Forks, N. D.
Alley, A. G. (R); Uni. of Minn., 1905; June 17, 1905.....St. Paul, Minn.
Anderson, C. A. (R): Uni. of Minn., 1905; June 17, 1905....Minneapolis, Minn.

Branton, B. J. (R); Uni. of Minn., 1905; June 17, 1905....Minneapolis, Minn.
Boslough, A. Wm. (R); Rush, 1905; June 17, 1905.....Ellendale, N. D.
Brandt, A. M. (R); Uni. of Minn., 1905; June 17, 1905.....St. Paul, Minn.
Burns, R. M. (R); Uni. of Minn., 1905; June 17, 1905.....St. Paul, Minn.
Bryant, O. R. (R); Uni. of Minn., 1905; June 17, 1905....Minneapolis, Minn.
Burnam, C. F. (R); Johns Hopkins, 1900; June 17, 1905....Minneapolis, Minn.
Ballou, H. B. (H); Uni. of Minn., 1905; June 17, 1905....Minneapolis, Minn.
Brown, P. F. (R); Uni. of Minn., 1905; June 17, 1905.....Minneapolis, Minn.
Brush, F. H. (R); Uni. of Minn., 1905; June 17, 1905.....St. Paul, Minn.
Boyd, F. P. (R); Rush, 1901; June 17, 1905.....Lewiston, Minn.
Brigham, F. T. (R); Uni. of Minn., 1905; June 17, 1905.....St. Cloud, Minn.
Benson, O. T. (R); Uni. of Minn., 1905; June 17, 1905.....St. Paul, Minn.

Cox, R. M. (R); Hamline, 1905; June 17, 1905.....Minneapolis, Minn.
Chase, E. F. (R); Uni. of Minn., 1905; June 17, 1905.....Minneapolis, Minn.
Carey, H. B. (R); Northwestern, Chicago, 1905; June 17, 1905....Chicago, Ill.
Chambers, W. C. (R); Uni. of Minn., 1905; June 17, 1905....Owatonna, Minn.
Corrigan, Wm. J. (R); Toronto Uni., 1905; June 17, 1905....Swanville, Minn.
Campbell, D. R. (R); Uni. of Minn., 1905; June 17, 1905.....St. Paul, Minn.
Campbell, R. W. (R); Uni. of Minn., 1905; June 17, 1905....Minneapolis, Minn.

Dyar, B. A. (R); Uni. of Minn., 1905; June 17, 1905.....St. Charles, Minn.
Dowling, G. A. (R); Northwestern, Chicago, 1905; June 17, 1905..Chicago, Ill.
Durand, J. I. (R); Uni. of Minn., 1905; June 17, 1905.....St. Paul, Minn.

Frasier, G. W. (R); Uni. of Minn., 1905; June 17, 1905....Minneapolis, Minn.
Franzen, H. G. (R); Northwestern, Chicago, 1905; June 17, 1905 .. Minneapolis
Freeman, G. H. (R); Uni. of Minn., 1905; June 17, 1905.....St. Paul, Minn.

Goehrs, H. Wm. (R); Uni. of Minn., 1905; June 17, 1905..Minneapolis, Minn.
Gans, E. M. (R); Uni. of Minn., 1905; June 17, 1905.....Duluth, Minn.
Gauger, E. C. (R); Uni. of Minn., 1905; June 17, 1905.....St. Paul, Minn.

Hood, Mary E. (R); Rush Med. Col., 1904; June 17, 1905.....Sioux City, Ia.
Helland, J. W. (R); Uni. of Minn., 1905; June 17, 1905.....Black Earth, Wis.
Hendrickson, J. F. (R); Uni. of Minn., 1905; June 17, 1905..Minneapolis, Minn.
Hilger, A. W. (R); Uni. of Minn., 1905; June 17, 1905.....St. Paul, Minn.
Haugen, G. T. (R); Uni. of Minn., 1905; June 17, 1905....Minneapolis, Minn.
Holcomb, O. W. (R); Northwestern, Chicago, 1905; June 17, 1905.
..... Lindstrom, Minn.

Johnson, N. A. (R); Uni. of Minn., 1905; June 17, 1905....Minneapolis, Minn.
Johnson, O. V. (R); Uni. of Minn., 1905; June 17, 1905.....Carver, Minn.
Jordan, M. M. (H); Uni. of Minn., 1905; June 17, 1905...Minneapolis, Minn.
Jacobsen, L. H. (R); Uni. of Minn., 1905; June 17, 1905.....St. Paul, Minn.
Jacobs, J. C. (R); Uni. of Minn., 1905; June 17, 1905.....Minneapolis, Minn.
Jones, C. S. (R); Milwaukee Med. School, 1896; June 17, 1905..Ironwood, Mich.

Kibbe, O. A. (R); Uni. of Minn., 1905; June 17, 1905.....Hampton, Iowa.
Kelly, S. M. (R); Uni. of Minn., 1905; June 17, 1905....Cottonwood, Minn.
Kane, J. P. (R); Uni. of Minn., 1905; June 17, 1905.....St. Paul, Minn.
Kolset, C. D. (R); Hamline, 1905; June 17, 1905.....Wendell, Minn.
Kranz, Martin (R); Uni. of Minn., 1905; June 17, 1905....Lake Crystal, Minn.
King, H. V. (H); Uni. of Minn., 1905; June 17, 1905.....St. Paul, Minn.
Kucera, F. H. (R); Creighton Med. Col., 1904; June 17, 1905 New Prague, Minn.

Lynde, Roy (R); Uni. of Minn., 1905; June 17, 1905.....Ellendale, N. D.
Lindberg, Charles (R); Hamline, 1905; June 17, 1905....Minneapolis, Minn.
Linde, Herman (R); Hamline, 1905; June 17, 1905.....Cyrus, Minn.
Lerche, Wm. (R); P. & S., Chicago, 1897; June 17, 1905.....Eau Claire, Wis.
Lewis, C. B. (R); Rush Med. Col., 1903; June 17, 1905.....St. Cloud, Minn.

Matthews, Justus (R); Uni. of Minn., 1905; June 17, 1905..Minneapolis, Minn.
Meyer, E. L. (R); Uni. of Minn., 1905 June 17, 1905.....Minneapolis, Minn.
Maschger, A. P. (R); Uni. of Minn., 1905; June 17, 1905.....St. Paul, Minn.
Morrill, R. A. (R); Uni. of Minn., 1905; June 17, 1905.....St. Paul, Minn.

Nickerson, W. S. (R); Uni. of Minn., 1905; June 17, 1905..Minneapolis, Minn.
Nicholson, Elmer (R); Uni. of Minn., 1905; June 17, 1905..Minneapolis, Minn.
Nessa, N. J. (R); Uni. of Minn., 1905; June 17, 1905.....Minneapolis, Minn.
Nyquist, J. E. (R); Uni. of Minn., 1905; June 17, 1905.....Hibbing, Minn.

Owre, Oscar (R); Hamline, 1903; June 17, 1905.....Minneapolis, Minn.

Peterson, G. E. (R); Hamline, 1905; June 17, 1905.....Minneapolis, Minn.
Parsons, G. E. (R); Uni. of Minn., 1905; June 17, 1905....Minneapolis, Minn.
Pearce, N. O. (R); Uni. of Minn., 1905; June 17, 1905.....Duluth, Minn.
Porter, O. M. (R); Uni. of Minn., 1905; June 17, 1905.....St. Paul, Minn.
Peterson, O. L. (R); Uni. of Minn., 1905; June 17, 1905.....Cokato, Minn.

Rousseau, Victor (R); Uni. of Minn., 1905; June 17, 1905..French Lake, Minn.
Rothschild, H. J. (R); Uni. of Minn., 1905; June 17, 1905.....St. Paul, Minn.
Reynolds, J. S. (R); Uni. of Minn., 1905; June 17, 1905..Minneapolis, Minn.
Rogers, J. O. (R); Uni. of Minn., 1905; June 17, 1905.....Minneapolis, Minn.

Schussler, O. F. (R); Hamline, 1905; June 17, 1905.....Minneapolis, Minn.
Smith, F. D. (R); Uni. of Minn., 1905; June 17, 1905.....Rochester, Minn.
Sogge, L. L. (R); Uni. of Minn., 1905; June 17, 1905.....Minneapolis, Minn.

Trutna, T. J. (R); Uni. of Minn., 1905; June 17, 1905.....Minneapolis, Minn.
Talbot, Ada E. (R); Hamline, 1905; June 17, 1905.....Minneapolis, Minn.
Tuohy, E. L. (R); Uni. of Minn., 1905; June 17, 1905.....St. Paul, Minn.
Thompson, Albert (R); Uni. of Minn., 1905; June 17, 1905..Sacred Heart, Minn.

Waller, J. D. (H); Uni. of Minn., 1905; June 17, 1905....Minneapolis, Minn.
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A COMPLICATED HEART CASE AND ITS MANAGEMENT*

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MINNEAPOLIS

Mrs. P. H. G——, aged 35, German-American, married 16 years, has two children, aged 14 and 11 years, both of whom are well. She has always been an ambitious and hard worker. The family history is good. Father, aged 76, and mother, aged 57, are both well; and of seven brothers and one sister only two are dead—a brother, aged 9 months, of an acute intestinal trouble, and the sister aged 6 weeks, of some acute illness. The others are well.

The patient has, previous to this illness, always been well, although never robust. A mild attack of rheumatism when 14 years old is the only former sickness. The shoulders and other muscles were lame; she was not in bed. The present trouble dates back 14 years, and was discovered during her first pregnancy. It was then thought she could not possibly live on account of a badly crippled heart. She has been under medical treatment ever since.

SYMPTOMS

She complains of shortness of breath on slight exertion, frequent pain around the heart, weak spells when the heart action is irregular and violent, and at times a smothered feeling in the whole chest. She easily gets dizzy, is a restless and poor sleeper, cannot lie on her left side, and every few days has attacks of feeling badly all over. Upon being questioned more closely she tells of two kinds of pain near the heart, one an uncomfortable feeling beneath the left breast, most noticed when the heart is rapid and irregular and she feels smothered. Another pain, which is sharp, severe, and for a variable time continuous, is located over the second and third left ribs near the sternum. A heavy feeling or "load" is felt most of the time in the upper part of the chest, and presses upwards into the throat. She is also troubled with a distressed feeling in the stomach, belching of gas, a variable appetite, sluggish bowels, and a slight, dry, but very annoying cough.

EXAMINATION

The patient is well developed, alert, and has a clear skin and good color. There is nothing on a casual examination to indicate that she is not absolutely well, for the general body outlines are normal, the face peaceful, and breathing quiet. The aeration and circulation of the blood when she is at rest is evidently competent. On inspecting the chest more closely the apex beat is forcible and diffuse, and extends left to the midaxillary line. The whole left breast is raised by the impulse, which seems strongest in the sixth interspace. In oblique moderate light a wave is seen over the second and third left interspaces in a downward direction, systolic in time, and separate in character from the apical impulse. The pulsation in the vessels of the neck is prominent and jerky. On palpation the apex impulse is strongest in the sixth interspace near the anterior axillary line, and is felt as a sudden slap against the ribs. Entirely different in character is a pronounced, continuous thrill extending from the first to the fifth rib on the left of the sternum, also well felt along the right upper portion of the sternum in the suprasternal notch and in the vessels of the neck. It is best felt in the second and third left and second right interspaces near the sternum.

*Abstract of a clinical lecture given at the Minneapolis City Hospital before the senior class of the University of Minnesota.

Percussion shows the deep cardiac dullness very much enlarged, especially to the left, as indicated by the apex beat.

Auscultation at the apex reveals a diffuse, harsh, but blowing systolic mummur, heard well over the whole lower left chest, but whose blowing quality is clearly traced upwards towards the left axilla. At the second right (aortic) interspace a rough, grating murmur is heard, systolic in time, which can be followed up into the vessels. It is so harsh and loud that it can be heard over a considerable area. At the aortic interspace a second murmur is heard, diastolic in time, softer and less well defined in quality, which is transmitted down along the sternum.



CUT I.

It gathers momentum downwards until at about the middle of the sternum the two aortic murmurs give nearly an even see-saw effect, although the quality of each remains distinct. Heard over the whole upper portion of the chest in front is a continuous, fine rumbling or purring murmur. It is entirely different from any of the valvular sounds which follow the ventricular contractions as the puffs of the engine follow the strokes of the piston in the cylinder. It is more like the continuous rippling murmur of water as it flows over the old-fashioned water-wheel, or as heard from a distant water-fall. The murmur can be separated into two parts, which, although continuous, show the first half, nearest systole, to be more pronounced and forceful than the second half. Over the second and third left interspaces it is best separated from the other murmurs.

If we now percuss again more carefully we find the deep cardiac dullness on a level with the fourth costal cartilage extending to the left as far as the anterior axillary line, and to the right an inch beyond the sternal border; but above the upper margin of the third rib there is a considerable area of dullness extending upwards to the first rib, to the left of the midsternal line in the second interspace, two and one-half inches, and to the right about two inches. The dullness diminishes in width in the third left interspace as shown by the outline on photograph. Over this area of dullness the thrill or continuous murmur is most clearly heard. There is no tracheal tugging, the voice is clear, the two radials are generally equal in volume and time, although it seems certain that when the patient is very quiet and at end of expiration the left radial is at times of smaller volume and just a trifle late. The pulse is regular, small, not hard, and from 76 to 80 beats per minute.

DISCUSSION

It is simply wonderful that a person whose heart shows such changes can be so comfortable. This ability of the heart and circulation to adjust themselves so well and for a long time to abnormal conditions is for a time a great boon to the patient, but in most instances the very cause of final disaster. The patient, in spite of all warning, will continue exertions that are far beyond the heart's endurance. The value of an orderly investigation of the chest becomes evident in this case. At nearly all points several adventitious sounds can be heard, and it is only by studying the sounds at their probable anatomical source or origin and tracing the murmurs, carefully back and forth, that auscultation helps in deciding what points are involved. A skiagraph confirms the enlargement of both heart and aorta as already determined, and reveals the aneurism to be of some length and of the sac type. From the wide distribution of the aneurismal murmur, its loudly purring character, and

absence of marked pressure symptoms, it seems likely that we have a number of dilated places along the arch, of which the largest is on the descending portion.

In other respects the patient is well. The lungs are clear except for râles heard along the inner border of the left scapula, due to pressure of the enlarged heart. The urine is normal. The menses are regular, rather abundant, and painful. The temperature is normal.

The original lesion was probably an injury to the aortic semilunars following rheumatism. The resulting stenosis and regurgitation, each in its own way, increased tremendously the work of the left ventricle. Its effort to force blood through the narrowed aortic opening was an extra effort, from which it got no relief no matter how hard the muscle tried to overcome the difficulty, for these same segments which obstructed the blood's course allowed it to drop back into the left ventricle as soon as ventricular contraction ceased. No wonder the left ventricle became tired and dilated and caused a mitral relative insufficiency. What this means you all know. Now, the harder the ventricle may struggle to send the blood forward into the aorta, the more force is expended also in assisting the blood to escape through this open back door, the mitral valve. The wonder is that the heart can successfully battle with such a condition as long as it has. But the pounding of this hypertrophied left ventricle, in its desperate effort to equalize the blood pressure, has been too much for the walls of the aorta. What inherent weakness, if any, existed there we know not. The patient's own and her family history give no evidence of any blood taint or weakness. Syphilis was formerly suspected to be a factor in all these cases. It seems that in a high strung, nervous individual, who constantly uses up all reserve strength, such a mechanical difficulty as exists here might be enough to cause the vessel wall to weaken.

TREATMENT

The harm has been done; it cannot be undone. All we can do is to see to it that the heart and vessels shall be subjected to as little strain as possible, and that their nutrition in common with every other part of the body is kept at its best. All treatment must have these two objects in view, and any advice or drug which does not assist to this end is harmful. And yet the time to treat a crippled heart is while the heart is competent. From personal experience the feeling is often imparted to us while in college that while compensation lasts little treatment is necessary, and most text-books speak in only a few words of what should be done at this time, and pass on to the time of failing compensation, and deal at great length with the management of a failing ventricle, dropsy, dyspnea, palpitation, cough, and hemoptysis, sleeplessness, uremia, etc.

When these symptoms have set in it is only a losing struggle against the inevitable. It really matters then very little what valves or vessels are involved. The whole man is crippled. Treatment should precede this stage, and should aim to prevent its approach.

Bodily rest is of first importance. We have asked this patient to stop all extra work, such as house cleaning, extra sewing, the usual social duties of entertaining friends, or doing active church work, and to limit herself to simply being about her home, quietly directing affairs. Whenever that passive work seems to tire her, to go to bed for a few days and rest up. A short rest in the recumbent position for half an hour two or three times a day is of great value. It quiets the heart, reduces arterial pressure, allows the heart muscle to feed (recuperate), and rests the nerve centers so that they are able to continue that governing control or inhibition necessary to regulate all function.

The food should be plain, nourishing, not too bulky, and of the kind that leaves few poisonous by-products to be removed by the sluggish secretions. For the same reasons the bowels should receive close attention. In most cases a mild effervescing saline early mornings before breakfast is helpful. If the tongue becomes coated, or the stomach sour, a dose of calomel acts like a charm in these sluggish cases. Plenty of water between meals, abundant fresh air, exposure to the sun, and relaxation, are points in the treatment more valuable than drugs. The object of drug treatment should be to relieve the tension in the blood vessels, and keep the heart muscle well nourished. We can in some measure estimate the working power yet left in the heart and know what we can count on here, but are unable

to say how near rupture the aneurismal sac may be. Hence this is our immediate point of danger, and being the unknown factor, we must abstain from any treatment that would increase this difficulty. Small doses (grs iv.) of sodium iodide, coupled with a small dose of strychnia and a very small tonic dose of digitalis (minims ii. or iii. of the fat free tincture) have seemed to do this patient good. Nux vomica with iron has been used at intervals with decided improvement, so that the patient is very much better now than when she first came under observation.

IS PHYSIOLOGICAL CUPPING OF THE OPTIC DISC, NOT CONFINED TO THE CENTER, EVIDENCE OF A MORBID PROCESS?*

By Edward J. Brown, M. D.

MINNEAPOLIS

In September, 1895, Mrs. H ——,54 years old, a practicing physician, came to me with the complaint of pain on use of the eyes for near work. She had 20-20 vision with each eye, slightly improved by plus .25 cyl., axis horizontal, and had been wearing plus I. D. for near.

The eyes were normal in appearance, except that there was a concavity of both optic discs of sufficient degree to lead me to take the fields. The right was normal, the left inferior nasal third contracted from 10 to 20 degrees. My taking the fields led her to say that when she was a young woman Dr. Williams of Boston, while treating her for some eye affection, had very carefully taken the fields.

Plus 3. D. lenses were ordered, and in three weeks the left field, taken again, proved to be nearly normal, but the left eye had been painful for the past two weeks. A solution of atropia .2 of 1 per cent was ordered and a single drop instilled in the left eye daily for a few days, with complete relief. The patient had recently lost her husband from pulmonary tuberculosis, and some years later died from the same disease. Much weeping undoubtedly had influenced her eyes unfavorably. Having spent the winter in another state, she consulted me on the June 30th following. About the 15th of May she had awakened in the night with a terrible feeling of fullness in the head followed by flashes of light in both eyes, from which she still suffered, especially in the morning. The flashes in the right eye were described as pulsating. Vision was R.—20-20, L. 20-15. Tension was normal, but the right cornea was less sensitive than the left, and possibly both were slightly anesthetic. There was a contraction of 15 degrees in the right inferior nasal and the left inferior fields. A weak solution of eserin was prescribed, but probably not used to any extent. No further notes of the case are available.

In December, 1901, Mrs. J. M. W —— consulted me for a mild, chronic conjunctivitis, probably follicular. Vision was 15-70 and with +1.75 D. 15-15. There was a "physiological cup" of both discs with slight concavity of the temporal half, of such a character that, notwithstanding normal fields and vision, I asked a friend of large experience to see the case, who simply smiled at my suspicions.

Ten years later, in June, 1901, Mrs. W—— returned with the same complaint. She was wearing +1.25 D., while she required +.75 D., which gave 20-30 vision, and with presbyopic correction J. I.

Tension was doubtful and both fields contracted from 10 to 20 degrees in the nasal, to from 20 to 40 degrees in the temporal half.

The correcting lenses were ordered and 1-12th grain solution of eserin sulphate to be instilled three or four times daily.

In October, 1902, Mrs. W—— returned. With +.37 cylinder axis, horizontal vision was 20-30. The pupils were 3 mm.. tension normal, and both corneæ anesthetic. There were two small posterior polar opacities of the right lens. Both

*Read before the Hennepin County Medical Society.

fields were somewhat better than a year before. In July of this year the condition is practically unchanged.

F. C——, 47 years old, hardware clerk, has been a great sufferer all his life from violent sick headaches, which have been worse of late.

Vision was 20-20, and he accepted R+1.+.37 cylinder, axis horizontal; L+.25+.50 cylinder, axis 30 degrees nasal, which gave 20-15 vision in each eye. Muscular tests: right hyperphoria 1 degree, esophoria 2 degrees, sursumduction 2½, abduction 2, and adduction 14 degrees. At a later examination the phorometer showed left hyperphoria 1 degree and corresponding sursumduction.

In order to make a satisfactory objective examination one drop of a .1 per cent solution of cocain was instilled in each eye, after five minutes one drop of a .2 per cent solution of homatropia hydrobromate, and five minutes later another drop of cocain. After an hour and a half the pupils were well dilated, and examination with test-types and retinoscope gave R+1.50 +.75 cylinder, axis horizontal; L+1.50+.50 cylinder, axis 30 nasal.

The pupils were then contracted with a single drop of a .2 per cent solution of eserin sulphate. On the following day the above findings were confirmed and ordered for constant use, less .25 D. S., with the addition of +1. for near work. The ophthalmoscope had revealed a slight concavity of both optic discs, in their temporal halves, a mere expansion of the "physiological cup" at the center, but no attention was paid to it at that time. Ten months later C—— reported that his headaches had been few and mild until of late, when they had recurred. He now accepted R+1.25+.25 cylinder, axis horizontal; L+1.+.25 cylinder, axis 30 degrees nasal, which, with the addition of +1.75 S. for near work, were ordered, and there has been no serious complaint since. At Mr. C——'s visit in February, 1902, I took more especial notice of the cupping of the discs, and taking the fields found the right contracted from 10 to 30 degrees, mostly concentrically, the left from 10 to 20 degrees.

Repeated field taking up to February, 1903, revealed only some slight improvement.

My study of glaucoma having led me to believe that uncorrected errors of refraction are a very important element in the production of that disease, I was much interested in the views of Professor Schoen of Leipzig, published in the Ophthalmic Record, of October, 1902. He says: "It has been shown by microscopic examination that forty eyes which had been examined in the live subject and found to have the so-called physiological excavation, had acquired it during the life time. This result was confirmed by statistical research and by the fact that new born children, with a few exceptions, do not exhibit excavation. I was able to examine microscopically fifteen eyes which I had previously examined in the living subject. Besides the beginning of the excavation, I discovered anatomical changes in the ora serrata with degeneration of the ciliary muscle. The degeneration of the ciliary muscle I consider the missing link explaining glaucoma simplex."

During the past year I have noted the presence or absence of the physiological excavation in my refraction cases, and so far as possible have taken the fields in the presence of excavation, with results that are, to say the least, interesting. Out of 160 cases not otherwise so diseased as to lead manifestly to field changes, concavity of the disc has been noted in 45 cases, or about one-fourth of the whole number. For obvious reasons it has not been possible to take the fields in all cases, consequently the proportion of excavations and possibly contracted fields is very conservatively stated. The excavations have included the small centre dip at the entrance of the vessels, the greater or small expansion of this physiological cup, the slight concavity in the temporal quadrant, mostly pale but sometimes as vascular as the rest of the disc, the deep excavation of the temporal quadrant or half, and the shallow excavation of the entire disc.

In addition to more or less concavity of the disc and contraction of the field, six of the cases have presented one or more symptoms of glaucoma.

Case 3532.—Farmer's wife, 53 years old; rheumatic history, color haloes, and flashing for the past three or four years; vision obscured at times; pain around the eyes of late, and the husband thinks the eyes have been red. Vision 20-70, and with +1.50+.25 cylinder, axis vertical, nearly 20-20. No muscular or accommo-

dative abnormality. Pupils 4 mm. and very sluggish, both corneæ somewhat anesthetic, and tension doubtful; both discs slightly cupped, and the fields contracted 10 to 15 degrees in the upper and lower, and from 30 to 40 degrees in the temporal, quadrants.

Case 3675.—Mr. S——, 65 years old, attorney, was told 30 years ago by an oculist that his right eye was amblyopic, and useless as the result of a blow across the eyes with a stick when he was a boy.

He consulted me on February 26, 1903, for an irritated condition of the left eye, of three months' duration, by reason of which his optician had given him numerous changes of glasses.

The lids of the left eye were encrusted as a result of marginal blepharitis, the eye slightly congested, the pupils of normal size and reaction. The right eye had 20-200 vision, and with +6.D. cylinder, axis vertical 20-50; the left 20 plus, improved by —.25 cylinder, axis horizontal, and the addition of +.2.50 D. gave J. I. in each eye. Muscle tests: right hyperphoria 3-4 degree, esophoria 1 degree; in accommodation exophoria 4 degrees with presbyopic correction; right and left sursumduction 1½ degrees, abduction 2, and adduction 12 degrees. The left disc was slightly concave, and the corresponding field contracted from 5 to 20 degrees in the inferior temporal third. No other symptom of glaucoma was noted at that visit. On the following day he complained of rheumatism in one shroulder, and a tingling at the ends of the fingers, which had troubled him in less degree for some weeks. At this visit the left cornea was somewhat anesthetic, and the tension plus 1.

Under sodium salicylate and a 1-24th grain solution of eserin sulphate the eye soon became quiet, and has remained so.

Case 3635.—Mrs. G——, 72 years of age, consulted me in January, 1903, with the complaint of defective vision and occasional pain and colored haloes during the previous two years. Pupils normal in size and reaction, tension normal, both discs somewhat excavated, and both fields contracted from 5 to 15 degrees in the nasal inferior and from 20 to 30 degrees in the superior and temporal quadrants. Radiating striæ were present in both lenses. Both corneæ were anesthetic. Vision 20-200 and 20-100, slightly improved by +.25 D. cylinder, axis vertical.

Case 3735.—Mr. B——, 60 years old, manager of a large business, consulted me in April, 1903, with the complaint that his eyes got tired easily. Was in fair general health, but overworked. The eyes had a watery and irritated appearance. Vision was 20-200 and 20-40; with his old glasses: —1.75 and—1. 20-40 and 20-30, respectively.

With R —1.50 —.50 cylinder, axis vertical, and L —.50 —.75 cylinder, axis horizontal, vision was 20-30 and 20-15, respectively. There was a large patch of choroidal atrophy at the nasal side of the disc, and a shallow excavation the entire disc of the right eye. The left eye presented no gross fundus changes. Pupils and tension were normal, but both corneæ were somewhat anesthetic. The fields were nearly normal, only a 10 degree defect in the inferior quadrants.

After wearing the correcting lenses 11 weeks Mr. B—— came back with the complaint of discomfort after the use of the eyes for near work. The eyes appeared about as at the previous visit. Vision was now better with: R —1.50 —.25 cylinder, axis vertical; L —.25—.62 cylinder, axis horizontal.

The patient had been using a boric acid solution and hot fomentations, and was now ordered massage of the eyes and brows with an evaporating alcoholic lotion, and directed to abstain from all near work. Three days later, as the pupils seemed slightly larger than at previous visits, a solution of eserin sulphate (1-24 grain) was ordered instilled sufficiently often to keep the pupils contracted. On August 11th, as the eyes still remained uncomfortable, two drops of .1 per cent cocain and .2 per cent homatropin were instilled in the right eye at five-minute intervals, and after an hour and a half the refraction was determined with retinoscope and test lenses as follows: R —.75—.75 cylinder, axis vertical; L —.25 —.62 cylinder, axis horizontal, which, with plus 3.D scales for near, was ordered. As a matter of safety the pupil of the right eye was contracted with a weak eserin solution before the patient left the office.

Mr. B—— was a sufferer from hay fever, and examination of the nose revealed a chronic sinus discharge (probably ethmoid) on the left, and anterior hypertrophic growths of both middle turbinals. The latter were removed without much delay.

Mr. B—— reported on October 15th that his left eye was much better, and, as he believed, because of the operation, but the right eye, while remaining quiet, had become clouded. Examination showed that the right had only 4-200 vision, not materially improved.

Both pupils were 3 mm. and reaction normal, both corneæ anesthetic, tension normal, the right field slightly more contracted than when first examined.

Case 3719.—Mrs. H——, 80 years of age, in good general health, in April, 1903, complained of a mild conjunctivitis of some weeks' duration. The pupils were slightly dilated, sluggish, and not quite round. Tension rather full in each eye. Each fundus presented an excavated disc and a temporal conus, and both fields contracted, the right from 10 to 20 degrees, mostly in the inferior half; the left from 20 to 30 degrees, mostly in the temporal half.

Mrs. H—— was wearing from an optician convex spheres, 1.75 D for distance, and for reading: R +4.75+.75 cylinder, axis vertical; L. +4.50+.50 cylinder, axis 30 nasal.

I corrected the refraction as follows: R +2.+ .50 cylinder, axis horizontal —20-30; L.+.25+ .50 cylinder, axis horizontal —20-30; add +3.25 S. J. I.; and the eyes have remained quiet and comfortable.

Case 3740.—Mr. V——, 63 years old, complained of discomfort in reading, and dim and watery vision. Both discs totally but not deeply excavated, and fields contracted from 10 to 20 degrees, mostly temporal.

A slight change in his glasses, the quarter cylinder being made horizontal instead of vertical, has given relief.

Case 3811.—Mr. F——, 74 years old, referred to me in July, 1900, for the treatment of severe neuralgia of the superior dental branch of the left trifacial, in addition to a chronic discharge from the left antrum and an obstructing middle turbinal hypertrophy of the same side, has a rather deep excavation of the temporal quadrants of both optic discs and 20 degrees contraction of the superior temporal halves of both fields. The refractive error was small; R —.25 cylinder, axis 70 degrees nasal 20-20; L +.25 cylinder, axis horizontal 20-15; but there was a left hyperphoria of 1 degree, and adduction was only 6 degrees.

Of the 39 cases presenting more or less excavation of the optic discs, but no other indication of glaucoma, only 4 had perfect fields. One, an overgrown 12-year-old girl, with 2.50 D. myopia, had 2 diopter deep cups extending to the shelving and atrophic temporal border. One, a woman, 53 years old, who has suffered greatly from pain in the back of the head, has .50 D. myopia, 10 degrees exophoria, and 1 diopter deep depression of the temporal halves of both discs. One, a young professional man, with normal vision, .25 D. plus astigmatism and orthophoria, sursumduction 1 degree and ½ half degree respectively, abduction 3 and adduction 10 degrees, has conjunctival congestion and a slight temporal concavity of both discs; and the other, a woman of 50 years, has worn convex 4.50 D., while she requires: R +4.75 D+.25 cylinder, axis vertical 20-20; L +6.25 D +.25 cylinder, axis vertical 20-30, and has a one diopter deep concavity of both temporal discs, the right extending to the scleral margin. An added cause of eye-strain in this case is to be found in the muscular condition: left hyperphoria 2 degrees, exophoria 4 degrees, exophoria at 13 inches, with presbyopic correction 18 degrees, and abduction and adduction 4 and 7 degrees, respectively.

Of the 39 cases presenting concavity of one or both discs and more or less defects of the fields, but with no other of the classical symptoms of glaucoma, I will mention only one as especially noteworthy.

Mr. R——, 50 years old, an attorney, vigorous and muscular, has suffered greatly from "nervous dyspepsia," and daily vertical, occipital, and frontal headache, the pain of which formerly extended down the spine. His physicians have never suggested an examination of his eyes, and he has never worn glasses. Vision —20-20, better with —.50 cylinder, axis vertical. Under homatrophia the correction was: R +.50 cylinder, axis horizontal; L +.50 plus=.75 cyl-

inder, axis vertical. Muscular condition: exophoria 10 degrees (in accommodation with presbyopic correction 13 degrees), abduction 16 degrees, and adduction 10 degrees. A perfectly natural and logical sequence of such a condition of muscular spasm, extrinsic and intrinsic, was found in a temporal concavity of both discs, and a 10 to 15 degree defect in the superior and inferior field of each eye.

While these cases are too few for a foundation for accurate generalization, they seem to me to warrant the following conclusions:

1. The "physiological cup" of the optic disc is a depression at the nasal side of the center, the point of entrance of the retinal vessels. "Sometimes it is a mere dimple or it may be deepened to a considerable funnel-like hollow, the *excavation.*"

2. A concavity of the temporal or any other part of the optic disc outside the above described "physiological cup" is probably a pathological condition.

3. The fact that about 25 per cent of cases applying for correction of refractive errors, present, in recognizable degree, a concavity of the temporal quadrant of the disc, with, in most cases, a sub-normal capillary vascularity; together with the fact that about 75 per cent of that 25 per cent have definite defects in the visual fields, is a reasonable indication of the truth of Professor Schoen's theory that eye-strain through the induction of a degenerative process in the ciliary muscle, is the primary cause of glaucoma simplex.

Addendum.—Since the writing of this paper two cases presenting themselves on successive days, are so strongly corroborative of the above conclusions, that I venture to transcribe my notes.

Case 3906.—Mrs. P——, from Iowa, consulted me on November 2d, complaining of sharp pains in her eyes, which had annoyed her for some months, and especially since a late attack of grip.

She is of slight and rather frail physique, of neurotic type and not in good general health. Urine scanty and of high sp. gr. Hypertension of arteries. Has noticed sparks before the eyes, and, she thinks, colored haloes. The pupils are sometimes large, and at such times the veins of the forehead and temples are distended. Scleral vessels rather prominent, pupils of normal size and reaction, corneæ normally sensitive, and tension doubtful. Rather deep temporal excavation with the appearance of undermining on the side of the vessels, in both discs. Both fields irregularly contracted, the right from 10 to 20 degrees, and the left from 20 to 30 degrees. Vision 20-30 minus, slightly improved by —.25 cylinder, axis vertical, and has been wearing for reading R 3.50; L 3.

As the tests were variable and unsatisfactory in their results, three drops of .2 per cent solution homatropia were instilled, and refractive condition determined to be —.25 cylinder, axis horizontal, in each eye. The addition of +2. gave normal near vision.

Under homatropine mydriasis there was *distinct pulsation of both superior retinal veins* at the point of emergence from the cup. The pupils were contracted with eserin, and on the following morning no venous pulsation or other glaucomatous symptom could be detected. At a subsequent visit pulsation was determined to be present in the right eye.

Case 3908.—Miss A. B——, 23 years old, clerk in a department store, consulted me on November 3d. Has had sick headaches and pain in her eyes all her life. Vision 20-20, 20-15 with +.25 cylinder, axis 45 degrees, temporal. Under homatropia and the use of the retinoscope the required correction was found to be —.25 cylinder, axis 45 degrees, temporal. There was right hyperphoria ½ degree, esophoria 1 degree, exophoria in accommodation in 1 degree, sursumduction right 1 degree, left ½ degree, abduction and adduction 6 and 12 degrees, respectively. The eyes were normal in appearance except for the presence of one diopter deep temporal excavation extending to the scleral ring, undermined toward the vessels, and in every particular almost the exact counterpart of the excavations in the previous case. Both fields were contracted temporally from 10 to 20 degrees.

I will only add that the fields in nearly all of these cases have been taken by a very conscientious assistant who could have had no temptation to manipulate the returns to make them fit preconceived theories.

A CASE OF ADDISON'S DISEASE*

By George Douglas Head, M. D.

Professor of Clinical Medicine and Microscopy, University of Minnesota

MINNEAPOLIS

We have before us to-day a remarkably interesting case to which your attention is directed. The patient is a married woman, 46 years of age, living at home. She comes to the dispensary complaining of weakness and prostration, a "trembling" of her arms and hands, and pigmentation of her skin. Her family history is good, father living at 75, mother living and well at same age, brothers and sisters living and well. Aside from periodical sick headaches and a number of attacks of quinsy, she was in fair health until about one year ago. At that time she began to complain of weakness and dizzy spells with nausea, and she noticed that the color of the skin upon her hands and arms was becoming darker. She had heard of a friend who had a disease in which her skin got very brown, and she asked a doctor, who came to the house to see one of the family, why her skin was becoming so tanned. About this time she was bothered with pain in her left elbow and in her left side. The pain in her side was worse in the day, and worse when she worked around the house. If she kept quiet or was in bed the pain in the side did not bother her. The pain in the elbow was not in the joint, but seemed to be in the nerve near the joint.

In November, 1904, she seemed so nervous and trembly that she went to consult a doctor. At this time the ordinary work around the house, which heretofore she had performed easily, caused her to feel tired, and it was necessary for her to lie down in the day and rest. She had to give up doing her washing because it made her so weak. The physician whom she consulted said her heart was affected, and told her that her pulse was very fast.

At this time she noticed that the color of the skin over the abdomen was changing to a dirty brown. Beginning with November, she was able to do only light house-work, and after December she gave up cooking and sweeping entirely. A few days ago she tried to cook a meal for her husband, but got so weak and nervous she had to go and lie down. For the past two months her appetite has been poor. She is nauseated at times, and has lost 10 lbs. in weight. Once or twice she has had dizzy spells, and has almost fainted. She has always been of rather dark complexion, but is sure that of late the skin on her face and hands and abdomen has been getting a deeper brown. Now the pain in her elbow does not bother her, nor does she feel the pain in her left side. When she puts her left hand to her head it seems to her that her left arm is weaker than it used to be, and she thinks she can not use it as well as before. Her bowels are regular. She sleeps poorly at night. The medicine which the doctor gave her contained bromide and chloral. She has never taken medicine with arsenic or silver nitrate in it.

You will note in the history given by the patient that two symptoms stand out prominently: the marked weakness complained of by the patient and the change in the color of the skin. The rapid heart action, nausea, and attacks of dizziness are complaints of importance, as is also the pain in the left elbow and left chest.

You will note that the patient is a tall, spare woman, with prominent features and high cheek bones. The most striking feature about her appearance is the deep tan color of the skin of her face, neck, and hands. The patient looks as if she had been working out of doors in the hot sun. This color is deeper over the forehead, and if you look a little closer you will observe a darker irregular patch, the size of the palm of the hand upon the right side of the neck. As we remove the clothing from the chest and back the skin shows this same bronzed color, although it is perhaps not quite as marked as on the face and hands. Over the abdomen the color is still more intense and has a smoked-ham appearance. Note also the small black spots, or flecks, upon the skin of the right breast. There are eight or ten or these, and they are about the size of a pin's head. Around the nipples the skin is very dark, almost black.

*A clinical lecture in internal medicine given at the University Free Dispensary before the senior class of the University of Minnesota.

We will now examine the mucous membrane of the mouth, tongue, lips, and fauces, for dark pigment spots. None can be seen. These spots, when present, are of help in establishing the diagnosis, since they are rarely present in other conditions besides Addison's disease. As we observe the face, we note that there is no bulging of the eyeballs (exophthalmos). When we ask the patient to look up and then down there is no lagging of the upper eyelids. Cases of exophthalmic goitre are sometimes accompanied by pigmentation of the skin. Bramwell has described a number of such cases. Upon examination of the neck, you can plainly see a swelling in the region of the thyroid gland. This is firm to the touch, has no pulsation, and when the patient swallows raises along the trachea. This is an enlarged thyroid gland. The patient states she had a goitre when sixteen years of age. Since then this swelling has always been present. It has not enlarged of late nor does it bother her at present. We now ask the patient to stretch out her hands with the fingers wide apart. Note the marked tremor of the finger tips. It is almost too coarse and jerky for the true tremor of exophthalmic goitre, and is more typical of the irregular tremor seen in persons of marked debility and weakness. We now count the pulse. It is 120 to the minute. Goitre, rapid pulse, and tremor, but no exophthalmos. Have we to do with a case of exophthalmic goitre with pigmentation? Let us continue our examination.

There is no apparent deformity of the spinal column and no tender points along the vertebræ. The patient bends the back in all directions without pain. There is no evidence of tuberculosis of the vertebræ. This is not an unusual cause of skin pigmentation, which may be mistaken for Addison's disease. Two such cases have come under our observation. One in a man aged 35, seen some years ago at the City Hospital. His case was diagnosed as Addison's disease, the pigmentation being most pronounced. Later he developed an abscess in the region of the sixth dorsal vertebra, which was opened and necrosis of the adjoining vertebræ discovered. The second also was a male, seen at Turck's Clinic in Vienna, in which the differentiation between tuberculosis of the spinal vertebræ with skin pigmentation and Addison's disease was extremely difficult to make. In our case Pott's disease with skin pigmentation can be excluded.

Let us proceed with the chest examination. The percussion note, front and back, is clear and resonant. The pleural excursions at the bases are not restricted. Auscultation reveals nothing suggestive. The lungs are normal. The cardiac examination shows nothing suggestive. The cardiac area of dullness lies 2 cm. inside the nipple line, the apex in the 5th interspace inside the nipple line. The heart beats forcibly, but now that the patient is lying down has slowed down to 90 beats to the minute. The cardiac sounds are well heard, but there are no murmurs. Turning to the abdomen, we palpate for the spleen, the patient taking a deep breath. Its edge cannot be felt below the costal margin. Splenic anemia, a disease characterized by enlargement of the spleen, reduction of the number of leucocytes (leukopenia), and more or less anemia, is sometimes accompanied by pigmentation of the skin, simulating Addison's disease. Dr. C. H. Hunter had recently under observation such a case at St. Barnabas Hospital, in which the diagnosis lay between Addison's disease, drug pigmentation, and splenic anemia. In our case the absence of enlarged spleen, the normal red count (4,200,000), and the normal leucocyte count (6,500), hemoglobin percentage of 75, rule out splenic anemia with pigmentation.

Let us now examine the liver. Its upper border is at the sixth rib in the mammary line. We cannot palpate its lower border below the costal margin. The liver is not enlarged. Enlarged liver is encountered in condition with pigmentation of the skin known as the "bronzed diabetes" of Hanot. In this disease the pigmentation is associated with a marked enlargement of the liver, and sugar is present in the urine. The urine of our patient contains no sugar. Furthermore "bronzed diabetes" affects men only, while our patient is a woman. In this connection it is well for us to remember that we may meet with cases of bronzing of the skin and enlarged liver without sugar in the urine. Von Recklinghausen studied twelve such cases, and called the disease *hemochromatosis*. He demonstrated an iron pigment in the liver, spleen, blood vessels, epithelial cells, and other organs of the body. Opie has made a very complete pathological

study of one such case with pronounced bronzing of the skin, cirrhosis of the liver, and chronic interstitial pancreatitis. It has been my good fortune to see two cases diagnosed as hemochromatosis, both in Dr. Osler's clinic. One was in a man 40 years of age with bronzing of the skin on the legs and face. The diagnosis at first was Addison's disease. Later he developed an enlarged liver and spleen without sugar in the urine. The second was a boy of twelve years with marked bronzing of the skin of the face and hands. He had had some pigmentation of the skin since six years of age. There was enlargement of the liver, but no sugar in the urine. Both bronzed diabetes and hemochromatosis can be excluded in our case.

Let us now turn to the examination of the abdomen. The wall is soft and pliable. The patient complains of no pain on pressure, nor can we feel any nodular masses. We turn the patient from side to side, but there is no evidence of fluid in the abdomen. It is important to remember that tubercular peritonitis is sometimes accompanied by marked pigmentation of the skin. Osler has reported a number of such cases. The pigmentation is often an early symptom and may simulate that of Addison's disease. Absence of ascites, nodular masses, or abdominal pain excludes tubercular peritonitis as a cause of the pigmentation. Other abdominal conditions, such as carcinoma of the stomach or intestine, sarcoma of the post peritoneal lymph glands, or of the bile passages, or pancreas, especially if accompanied by jaundice, may give a discoloration of the skin similar to that which our patient exhibits. There is now in the City Hospital a case of chronic obstructive jaundice, due probably to malignant disease, either of the common bile duct or of the head of the pancreas, which, at first glance, might be mistaken for pigmentation from Addison's disease.* There is nothing to suggest malignant disease in the history of our patient or in the physical findings.

The diagnosis, therefore, narrows itself down to the two alternatives: Have we here a case of exophthalmic goitre with pigmentation of the skin, or have we a true case of Addison's disease? In favor of the former are the enlarged thyroid, the tremor, and the rapid heart. However, there is no exophthalmos. The goitre the patient has had since a girl, and the tremor is a coarse tremor, more like that due to debility.

The patient has had no local sweatings, no loss of hair, no polyuria, no attacks of diarrhea,—all symptoms met with in exophthalmic goitre. While we cannot positively exclude Grave's disease we believe that our case is one of Addison's disease. The symptoms which lead us to this conclusion are, first, the pigmentation of the skin, and, second, the marked debility of which the patient complains. The pigmentation is widespread and uniform. It is more intense upon the face and hands, around the nipples and navel, and in the groins and oxillæ. It is too general and pronounced for the pigmentation seen in exophthalmic goitre. The asthenia complained of by the patient should receive our special attention. Next to the pigmentation of the skin, it is the most important symptom in Addison's disease. Addison, in his original description, laid great stress upon it. This prostration and weakness our patient well describes. She tells how she had to give up doing her household duties, one after another, until she became incapacitated. The gastric symptoms complained of by the patient and the attacks of dizziness also add a point in favor of the diagnosis of Addison's disease.

Having determined the character of the case with which we are dealing we can make our prognosis, and outline the course of the treatment. (Patient is dismissed.) The prognosis in the case just presented is grave. Of the six cases of Addison's disease which it has been my privilege to observe, not one is now living. All have died in from one to three years after coming under observation. The disease being a tubercular infection of the suprarenal capsules, we will advise out-of-door life, nutritious food, with plenty of cream, milk, eggs, beefsteak, and fats. We will prescribe suprarenal extract, in 5-gr. doses, three times a day, telling the patient to increase the dosage each week until she will finally be taking 15 grs. three times a day. If anemia is present, Blaud's pill (fresh made) grs. 5, three times a day, should be given. Arsenic and strychnia are also useful tonics, the former as Fowler's Solution, minims v., three times a day, the latter as sulphate, in doses of gr. 1-40, four times daily.

*This patient has since died. The autopsy revealed a carcinoma of the head of the pancreas.

HOSPITAL BULLETIN

ST. BARNABAS HOSPITAL

MINNEAPOLIS

THE MEDICAL TREATMENT OF APPENDICITIS

IN THE SERVICE OF DR. C. H. HUNTER

Interest in the treatment of appendicitis is centered almost wholly in its surgical aspect. Indeed, the more we deal with these cases the better we appreciate the wisdom of the advice to "get rid of the nasty little thing" (Price); and this is the advice the conscientious practitioner will almost invariably give. However, it will not often be followed, so that there are cases that we must manage medically.

Practitioners of experience will recognize the following types:

CASE 1.—Mrs. S——, aged 60; has been subject to fits of indigestion. Sudden onset, abdominal pain, chill, fever, vomiting, constipation, tongue heavily coated, tympany, muscular rigidity, sensitive swelling in right iliac region, and high leucocytosis. Operation was urged, but refused. Gave divided doses of calomel, and administered morphine p. r. n. Gave clam juice and toast water for nourishment. Hot poultices frequently changed. Critical illness lasted a week. Increase of swelling; fluctuation. Operation was still refused. Discharge of pus by bowels. Remission of symptoms, and gradual recovery. None of the old attacks of indigestion have now occurred for eight years.

CASE 2.—Mr. N——, subject to colic, for which he had found castor oil a sufficient remedy. However, the usual prompt relief was not felt in this attack, which is severer than usual. Slight tympany, and tenderness over McBurney's point. Temperature, 100°. Operation advised, but not urged. One hypodermic of morphine and continuous applications of ice-bag were sufficient to control the pain. One enema was given. Rest in bed in the hospital was ordered, with a diet of clam-juice bouillon. Gave calomel in divided doses. The symptoms abated. The patient was discharged on the fifth day, and has had no trouble since in eight years.

CASE 3.—Mr. D——, aged 45; large, fleshy man. Subject to serious attacks of indigestion. Sudden sharp pain in belly, chill, emesis, fever, tympany, tenderness and resistance in right iliac region, rigid abdominal muscles, tongue dry and coated. Operation was urged, and steadily refused. The patient was put upon clam bouillon. Calomel, opium, and ice-bag were resorted to. He remained critically ill for four days. A gradual abatement of symptoms was followed by complete recovery, and there has been no return of the trouble.

CASE 4.—Mr. G——, aged 33. Ten years ago was sick in bed with belly pain. Two months ago he had an attack of pain in the lower abdomen. Bowels regular. Now again has some pain and steady backache. Passing gas relieves the pain. Tongue clean, no fever, only sensitive point is in deep pressure on the appendix. Ordered rest in bed, bismuth and opium. Gave one enema, and nothing to eat. In four days symptoms disappeared, and there has been no return in eight years.

CASE 5.—Miss H——, aged 18; attack diagnosed as indigestion last month. Has similar attack again with sharper pain, tender appendix, muscles rigid. Temperature is 100°. Rest in bed, with one enema, is ordered, together with ice-bag, clam bouillon and toast water. No medicine is given. Recovery in eight weeks. Patient had a similar attack the following month, after which the appendix was removed. It was catarrhal, and there were a few adhesions. There have been no more attacks.

It will be seen that the plan of rest in bed, the ice-bag, starvation, no physic beyond a few doses of calomel, one enema, and the necessary amount of opium, is followed by good results.

The medical attendant can comfort himself with the fact that most of the cases will recover, some remaining well, others not. The distressing fact is that he cannot tell which are going to get well or which are going to get worse till the golden opportunity for easy, safe, and quick recovery that is open to nearly all has been lost.

NORTHWESTERN LANCET

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THE MAYOR'S MEDICAL MUNICIPAL APPOINTMENTS

The appointment of Dr. C. G. Weston as a member of the Board of Charities and Corrections by Mayor Jones was an evidence of his forethought in the selection of his associates. Dr. Weston has previously occupied the position of city physician, and was experienced in the management of the City Hospital, as well as being the medical man who looked after the health of the inmates of the workhouse.

Dr. Weston is recognized by all medical men in Minneapolis as a strong, conservative man, who will do his duty on the Board without fear or favor. In this respect he is like Mayor Jones and Mr. John Crosby, looking for the interests of the institutions rather than for political advancement.

The organization of the new board was effected in a very short time. After the ordinary routine business had been transacted a city physician was elected, Dr. E. H. Beckman receiving the appointment.

Dr. Beckman was an assistant to Dr. Wesbrook in the laboratory of the State Board of Health, and had previously spent a year in practical work in one of the hospitals. His executive abilities are unquestioned. Previous to his beginning the study of medicine he was principal of a high school, and after his graduation and while connected with the laboratory staff he was frequently sent out to take charge of epidemics in the towns throughout the state. His appointment as City Physician is most gratifying, as it is in line with the promise Mayor Jones made at the annual meeting of the Hennepin County Medical Society: that one of the men recommended by the society would undoubtedly receive the appointment. It is to be hoped that Dr. Beckman may remain in the service for years, that future boards will consider his worth, and retain him as City Physician, thus permanently divorcing the City Hospital from political entanglements.

Personally Dr. Beckman is a man of dignity, professional address, and sincerity. He will be ardently supported by the entire profession. Those who know him are confident of his success, and those who are to know him will appreciate his many qualities.

FORMIC ACID AND RHEUMATISM

After four and one-half years' study and chemical analysis of the excretions, Dr. L. B. Couch, of New York, has promulgated a theory in the causation of rheumatism. His observations, published in an article in The Medical Record for June 24th, are interesting, in that he believes that all rheumatism, acute or chronic, muscular or articular, is due to self-generative systematic poison. This poison is chemical and not bacterial. It is a suboxidation product, but is not uric acid, which is a product, and not the cause, of rheumatic conditions. Fermentation is the basis, due to carbonic acid generated in the stomach and bowels from excessive drinking of fluids at meals. The foods are washed into the stomach without mastication and without the proper mixture of saliva. To relieve rheumatism Couch gives formic acid, and says he was led into the investigation of the treatment by the experience of a rheumatic farmer who was accidentally cured by the sting of bees. The directions for the use of formic acid are as follows:

1. Always cleanse the parts thoroughly before injecting formic acid solution.

2. Never use a stronger solution than 3 per cent; a 2.5 per cent solution is much better.

3. Never use it without injecting from 5 to 8 drops of a 1 per cent solution of cocain or other local anesthetic as a preliminary to the formic acid treatment.

4. Always choose extensor or outer parts of a limb for injecting the remedy, and inject it just beneath the skin, though deep injections may be used when occasion demands.

5. Never use more than 8 drops in any one place of either cocain (1 per cent solution) or a formic acid solution. Use a similar amount of the cocain and of the formic acid solution.

6. If large doses are used of formic acid solutions, hard, painful lumps are formed, which are slow of absorption and painful; whereas if smaller doses are used no destruction of tissue results and no painful growths supervene.

7. Inject the most painful points, and make the injections not less than two inches apart.

Couch never used more than thirty injections at a time, and it is far better to use only twelve or fifteen, and to repeat the following day in another place. Avoid all nerve trunks on account of pain. Injections may be given every day or every other day till the pain ceases. The author cites some wonderful cases, and says that astonishing results follow in acute cases in twenty-four hours and in arthitis deformans in forty-eight hours.

It is a relief to hear that rheumatism and uric acid (whatever that is) need not be one and inseparable. It is also a joy to find a new theory for the causation of rheumatism. All of the new preparations which are carefully deposited in the physician's office by salesmen for a new and unheard of firm, with guarantees to relieve rheumatic pains, will be cast aside. The formic acid treatment is tempting, as it is prompt in its results, and can do no harm, certainly not as much harm as some of the well advertised remedies. The treatment is evidently more or less painful, but in comparison to the pain of acute or chronic rheumatism the advantages are on the side of formic acid.

The theory that the poison is a chemical one and can be counterbalanced by another poison of a chemical nature, is as good as any theory we have concerning the cause and treatment of rheumatism.

IMPULSIVE SCIENTIFIC CONCLUSIONS

Scientific and unscientific experimenters evidently believe in publicity whether their observations are new or old, if the newspapers are to be relied upon as sources of information.

A laboratory experiment is flashed over the wires announcing that the secret of life has been disclosed by a new observer.

Yesterday a salt solution stimulated the inanimate into the animate; to-day sterilized bouillon and a tube of radium are responsible for the origin of some form of life.

James Butler Burke, of the Cavendish Laboratory, Cambridge, is the latest one to allow his discoveries to reach the public press. He believes that "nearly everything is radio-active,—even the earth itself,—and in some suitable medium life may have originated in that way." Dr. Doyen of Paris, says: "Burke's experiments are not conclusive; they prove nothing. In all probability what took place was a development of microbes in insufficiently sterilized bouillon. I regard spontaneous generation as impossible."

Other scientists, like Metchinkoff, believe that no new scientific fact can be accepted until checked by repeated experiments by different persons under all sorts of conditions.

Dr. Tizzoni, of Bolonga University, announces that hydrophobia can be cured with the rays of radium. The assumption of various experimenters that radium rays are active to an unusual degree is pure hypothesis. No one knows anything about the actual properties of radium, yet many are ready to assure us that wonders may be accomplished by this substance.

The Electrical World and Engineer, for May 27th, comments very sensibly on the recent publications on the properties of radium, and suggests the conservatism of Sir Isaac Newton, who waited nearly half a life time and then, after many years of patient study and sufficient data to prove his conclusions, he announced his law of gravitation.

The tendency of the student of the present time is to announce conclusions which are the offspring of vivid imagination. This same tendency is found in the vender of drugs who dreams of a combination, makes a mixture, administers it to animals or human beings, and

then claims certain deductions. The compound is placed upon the market warranted and guaranteed to effect definite disease states.

Again, the imagination of the second experimenter is brought into play, and the subject is the object of his dreams. A patient who is supposed to have an ailment is treated with a composition of unknown quantity or quality, and the dreams of the dreamer are distorted into a belief which is promulgated and finally accepted by others,—a suggestion only; a conclusion, rarely.

There is no denial of the fact that mere discoveries are made from time to time which prove valuable, but those of real value come only after repeated experiments under the most convincing and painstaking circumstances. The bulk of the so-called discoveries are worthless, except that they may be of temporary commercial value to the promoter.

Medical men should learn more of conservatism in remedies, and should remember that many of the medicines and appliances they administer effect their cure by suggestion, hence it is safer and usually effective to give simple drugs in small doses with wholesome suggestions. It is also wiser to think that life is not the outcome of spontaneous generation.

CENSOR ASEPSIS

The custom prevails in some hospitals, especially in certain critical operations, of appointing a resident physician, not himself engaged in the operation, to act as a censor asepsis. It is the duty of this censor to see that not only the assistants, but the operator himself, violates no aseptic rule. The necessity for such precaution does not arise alone from a possible lapse into carelessness by some one who is taking part in or observing the operation, but it arises from the danger that is always present in critical cases where more or less excitement must prevail, on the part of both operator and assistants.

Would it not be a valuable experience in all student clinics to appoint one or two censors, who should report, at the end of the clinic, not only the apparent and the real violations of aseptic precautions, but should call attention to any precautions taken by the operator or assistants that might be unobserved by less observant onlookers.

We are not sure that such a practice would not confer as great a benefit upon the surgeon operating as upon the student observing, for the simple reason that most surgeons are prone to fall into carelessness in, at least, some of the minor aseptic precautions taken by men who produce what we are ready enough to call marvelous results, which in reality are results obtained by scrupulous cleanliness.

BOOK NOTICES

International Clinics. A Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles on Treatment, Medicine, Surgery, Neurology, Pediatrics, Obstetrics, Gynecology, Orthopedics, Pathology, Dermatology, Ophthalmology, Otology, Rhinology, Laryngology, Hygiene and other topics of interest to students and practitioners. By leading members of the medical profession throughout the world. Edited by A. O. Kelly, A. M., M. D., Philadelphia, U. S. A. Volume IV. 14th Series, 1905. Philadelphia: J. B. Lippincott Company.

The International Clinics is one of three or four serial publications that have taken a firm hold upon medical men. The topics discussed in this volume show its scope, and when the reader finds that only men of the highest reputation and of special fitness for the work do the writing for the Clinics he looks forward to each new volume with real delight feeling that he will always find out from its perusal what is going on in the medical world.

Chemical and Microscopical Diagnosis. By Francis Carter Wood, M. D., Adjunct Professor of Clinical Pathology, College of Physicians and Surgeons, Columbia University, New York; Pathologist to St. Luke's Hospital, New York. With 188 Illustrations in the Text and Nine Colored Plates. Cloth, $5.50. New York: D. Appleton & Co.

While many good books have been published upon this subject within the last few years, there is certainly room for this excellent volume written by Professor F. C. Wood. In every respect the subject matter deals with the most ad-

vanced knowledge upon the chemical and microscopical methods used in the diagnosis of disease.

The scope of the work includes a chemical and microscopical study of blood, stomach contents, feces, urine, sputum, intestinal parasites, transudates and exudates, and milk.

The volume is profusely illustrated with drawings and plates excellently executed.

The chapters upon the morphology of the blood, serum reactions, blood and intestinal parasites and chemistry of the urine are especially complete.

The opinions expressed by the writer upon mooted questions are unusually conservative and to the point at issue.

The possessor of this excellent book will not look in vain for guidance in his laboratory work in clinical medicine. It furnishes a high standard for future authors upon this subject to excel. GEO. DOUGLAS HEAD, M. D.

A TEXT-BOOK OF OPERATIVE SURGERY. Covering the Surgical Anatomy and Operative Technic Involved in the Operations of General Surgery. Written for Students and Practitioners. By Warren Stone Bickham, Phar. M., M. D., Assistant Instructor in Operative Surgery, College of Physicians and Surgeons, New York; late Visiting Surgeon to Charity Hospital, New Orleans, etc. 984 pages, with 559 illustrations, entirely original. Cloth, $6.00 net. Philadelphia: W. B. Saunders & Co.

This work completely covers the surgical anatomy and operative technic involved in the operations of general surgery. It is constructed on thoroughly new lines, the discussion of the subject being remarkably systematized and arranged in a manner entirely original. A feature of the work to which we would call especial attention, and for which alone it is well worth the price, is the wealth of magnificent illustrations. There are 559 of them, all entirely original. They depict the progressive steps in the various operations detailed with unusual clearness, and at the same time represent the highest artistic excellence. The text is fully abreast of the latest advances in surgery, all the recent improvements along the line of technic being adequately discussed. Another feature distinguishing it from other works on operative surgery, is the treatment of the anatomic side of the subject in connection with the operative technic. The illustration will be found of particular assistance in this connection, the muscles, bones, etc., being clearly indicated, together with the lines of incision. It is a magnificent work, and we have yet to see its equal.

A MANUAL OF THE PRACTICE OF MEDICINE. By A. A. Stevens, A. M., M. D., Professor of Pathology in the Woman's Medical College of Pennsylvania; Lecturer on Physical Diagnosis in the University of Pennsylvania; Physician to the Episcopal Hospital and to St. Agnes' Hospital; Fellow of the College of Physicians of Philadelphia, etc. Sixth Edition, Thoroughly Revised, Enlarged, and Reset. Handsome Post-octavo of 556 pages, illustrated. $2.25 net. Philadelphia: W. B. Saunders & Co.

The popularity of this manual on the Practice of Medicine can be attested for by its numerous editions. The work covers completely the ground gone over by the student, especial stress being laid on diagnosis, differential diagnosis, and treatment. Each disease is treated in a concise, clear, and scientific manner, and the reader can not fail to grasp the author's meaning. This sixth edition has been entirely reset and greatly enlarged, without changing, however, the original style of the work. Many articles, notably those on Diseases of the Digestive System, Diseases of the Myocardium, Malaria, Diseases of the Blood, Gout, Diseases of the Spinal Cord and Larynx, have been entirely rewritten, thus bringing the work absolutely abreast of the times.

THE FOUR EPOCHS OF WOMAN'S LIFE. Maidenhood, Marriage, Maternity, Menopause, Second Edition. By Anna M. Galbraith, M. D., Author of "Hygiene and Physical Culture for Women"; Fellow of the New York Academy of Medicine, etc. With an Introductory Note by John H. Musser, M. D., Professor of Clinical Medicine, University of Pennsylvania. 12mo volume of 247 pages, $1.50 net. Philadelphia: W. B. Saunders & Co., 1903.

This work, written for the instruction of the laity on subjects of which every woman should have a thorough knowledge, is indeed a timely and excellent one. The fact that a second edition has been demanded in such a short time is sufficient proof that women have at last awak-

ened to a sense of the penalties they have paid for their ignorance of those laws of nature which govern the epochs of their lives. The language used is clear and comprehensive, yet, withal, modest, and the meaning easily grasped even by those unfamiliar with medical subjects. As a further aid a comprehensive glossary of medical terms has been appended.

In this new edition the author has made some excellent additions, viz.: A section on "The Hygiene of Puberty;" one on "Hemorrhage at the Menopause a Significant Symptom of Cancer;" and one on "The Hygiene of the Menopause." These sections make the work the very best on the subject we have seen, and physicians will be doing a real service by recommending it to their patients.

Conservative Gynecology and Electro-Therapeutics. A Practical Treatise on the Diseases of Women and Their Treatment by Electricity. By G. Betton Massey, M. D., Attending Surgeon to the American Oncologic Hospital, Philadelphia; Fellow and Ex-President of the American Electro-Therapeutic Association; Member of the Société Francaise d'Electro-Thérapie, American Medical Association, etc. Fourth Edition, Revised, Rewritten and Greatly Enlarged. Illustrated with twelve (12) original, full-page chromolithographic plates; twelve (12) full-page half-tone plates of photographs taken from nature, and 157 half-tone and photo-engravings in the text. Pages XVI-468. Royal Octavo. Extra Cloth, Beveled Edges. Price, $4.00, net. Philadelphia: F. A. Davis Company.

The appearance of a revised edition of Dr. Massey's work is very timely and helpful inasmuch as Dr. Massey is a conservative man and the tendency of the day in the treatment of gynecological cases is decidedly conservative, the knife having done too much harm even in the best of hands. Moreover, the best general practitioners realize that they must do much of the work that has so long gone to the specialist when many a self-styled specialist is not even a good general practitioner and a very poor specialist.

The progress of electro-therapeutics has been very rapid, and the crude things done in this line of work can no longer be tolerated, nor can they obscure the value of this mode of treatment.

Dr. Massey has given the general practitioner a very valuable book in his revised edition.

REPORTS OF SOCIETIES

HENNEPIN COUNTY MEDICAL SOCIETY

F. A. Knights, M. D., Secretary

A stated meeting of the Hennepin County Medical Society was held in the society's rooms in the Andrus building, Dr. David Owen Thomas, president, in the chair, and about thirty-five members present. The minutes of the annual banquet meeting and the intervening special meeting were read and approved.

The Executive Committee made a report of receipts and expenditures for the annual banquet, showing a surplus of $5.30 turned into the general fund.

Dr. F. R. Woodard reported a case of sarcoma of the omentum.

Dr. H. L. Staples presented a specimen of thoracic aneurism.

Dr. E. K. Green reported a case of lobar pneumonia in a child of four years, followed by hematuria.

Dr. M. P. Vander Horck read a paper on "Sterility in the Male," and Dr. A. W. Abbott read a paper on "Sterility in the Female." These papers were discussed by Drs. Thomas, Lewis, Phillips, Donaldson, Hunter, Woodard, Green, and Crume, and by the author in closing.

NEWS ITEMS

Dr. Robert Turnbull, of Perham, will move to Richville.

Dr. B. J. Branton, State University, '05, has located in Atwater.

Dr. William Lerche, of Eau Claire, Wis., has located in St. Paul.

A surgical ward is to be added to St. John's Hospital of Red Wing.

Dr. A. J. Somers, of Milwaukee, Wis., has moved to Bayfield, Wis.

Dr. W. P. Lee, of Fairfax, is doing post-graduate work in Boston.

Dr. Martin Kranz, of Lake Crystal, is temporarily located at Fairfax.

Dr. N. J. Nessa, University of Minnesota, 1905, will locate in Madelia.

Dr. M. N. Grove, a recent Chicago graduate, has located at Sioux Falls, S. D.

Dr. Edward von Waldau, of Tyndall, S. D., has moved to Eureka, in the same state.

Dr. W. V. Gulick, of Oronoco, has accepted a position with St. Mary's Hospital of Rochester.

Dr. F. T. Brigham, of St. Cloud, a recent University graduate, will locate at Two Harbors.

Dr. I. M. Law has moved from Hannah, N. D., to Langdon, N. D. Dr. Law is a graduate of Detroit.

Dr. R. H. Ray, of Walnut Grove, has gone to North Dakota to practice, and has located at Kramer.

Albert Lea is still agitating the subject of a hospital. The present plan is to lease the Wilcox hospital.

Dr. J. A. McKay, who graduated this year from the P. & S. of Chicago, has located at Langdon, N. D.

Lyon county is advertising for sealed bids for the county medical work. We should be pleased to publish the bids.

Dr. Albert Thompson, who graduated this summer from the State University, has begun practice at St. James.

Dr. E. H. Beckman, a graduate of the State University, 1901, has been appointed City Physician of Minneapolis.

Dr. W. H. Lawyer, of Webster, S. D., has moved to Aberdeen, S. D., and formed a partnership with Dr. H. J. Rock.

Dr. L. W. Babcock has finally decided to remain in Wadena, and not to go to California. He will resume practice at once.

Drs. Spafford & Evans, of Flandreau, S. D., have dissolved partnership, and Drs. Spafford & Rider will do business together.

Dr. C. G. Weston, who was formerly City Physician in Minneapolis, has been appointed a member of the City Board of Corrections and Charities.

Dr. Axel A. Hedback, of Barron, Wis., was accorded the verdict in a $10,000 damage suit for alleged malpractice, brought against him by one Findlay.

Dr. S. M. Morrison, who practiced medicine in Blue Earth county for many years, and who retired from active practice some years ago, died last month.

The physicians of Fergus Falls will contribute all the appliances necessary in the operating-room of the George B. Wright Memorial Hospital of that city.

Dr. Ralph E. Weible, partner of Dr. E. M. Darrow, of Fargo, N. D., was married last month to Miss Mary Hope Darrow, the daughter of Dr. E. M. Darrow. Dr. and Mrs. Weible have gone to Europe for a four months' trip.

In a suit for malpractice against Dr. Chas. G. Shipman, Ely, Minn., in which it was claimed that the plaintiff had not received proper treatment in and after the amputation of a leg, and that his sufferings were valued at $10,000, the jury, after forty-five minutes' deliberation, returned a verdict for the defense.

The supreme court of Minnesota has decided that a surgeon has no right to operate upon a patient without that patient's consent. It is difficult to understand why this decision does not cover cases where a patient is unconscious and liable to die without an operation. If it covers such cases, a person rendered unconscious by an accident, for example, whose life could be saved by an operation, must die because he is rendered helpless. What a law!

The date of the annual meeting of the Southern Minnesota Medical Association, at Owatonna, has been changed on account of the large number of physicians who will have just returned from Portland, and will be held August 17. Announcements will be made in due time. An elegant program is in preparation, and the meeting will be one of the best in the history of the association. A symposium on pneumonia will be among the leading features of the meeting.—W. T. Adams, secretary, Elgin, Minn.

The thirty-seventh annual meeting of the Wabasha County Medical Society was held at Wabasha, Thursday, July 6th, Dr. J. C. Adams, of Lake City, presiding. Dr. C. E. Gray, of Kellogg, and Dr. E. J. French, of Plainview, were elected to membership. After the reading and discussion of papers the following officers were elected: President, Dr. W. J. Cochrane, Lake City; vice-president, Dr. J. P. Davis, Hammond; secretary and treasurer, Dr. W. F. Wilson, Lake City; delegate, Dr. W. F. Milligan, Wabasha.

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NORTHWESTERN LANCET

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ACUTE MASTOIDITIS, WITH REPORT OF CASES*

By W. J. Cochrane, M. D.,

LAKE CITY, MINN.

Acute mastoiditis is nearly always due to an extension of an acute or chronic inflammation from the middle ear. Primary mastoiditis, although uncommon, may follow exposure to cold or a traumatism, or it may develop during the course of a tubercular or specific trouble.

It is also claimed that inflammatory conditions in the external auditory canal, especially when located on the posterior wall of the canal, may produce mastoiditis by extension by contiguity. But, as stated above, the infection is nearly always consequent upon a middle-ear inflammation, and is most prevalent during epidemics of influenza or in the course of measles and scarlet fever, the infection probably gaining entrance to the middle ear through the Eustachian tube and then to the mastoid through the aditus ad antrum.

In the beginning the inflammation may be limited to the lining membrane of the pneumatic spaces or to the periosteum, or both membranes may be involved. In the acute form the latter condition is most likely to prevail.

Unless the inflammatory process is soon interrupted, necrosis of the bone occurs with formation of granulation and collection of pus.

The presence of infectious material in the bony cavity may produce several results:

1. In the most favorable cases drainage is established through the aditus ad antrum to the middle ear, thence through a rupturel drumhead and the external auditory canal.

2. Through a fistulous opening in the cortex over the mastoid cells forming a post-aural abscess.

3. Rupturing internally communicating with the cranial cavity through the lateral sinus or roof of the tympanic cavity. When this occurs we usually have inflammation of the meninges of the brain, either resulting in purulent *leptomeningitis, epidural abscess, thrombosis of the lateral sinus* or abscess of the brain substance.

SYMPTOMS

1. The most prominent symptom in acute mastoiditis is pain over the mastoid portion of the temporal bone. It is usually most marked directly over the mastoid antrum, and close to the posterior margin of the canal. Pressure over this region will cause severe pain.

2. The next most important symptom is bulging or prolapse of the superior-posterior wall of the external auditory canal near the tympanic ring.

3. Where a previous aural discharge has been present, with the appearance of the above symptoms, there is usually a diminution in the discharge.

4. A temperature usually of from 99° to 102°. This is not a very important symptom, as we may have it with only an acute otitis media.

5. In young children who are unable to locate the seat of pain, restlessness at night should excite suspicion of mastoid involvement, especially if it follow the cessation of an aural discharge.

6. If the intercranial structures are involved the symptoms manifested depend upon the particular region involved.

*Read at the annual meeting of the Wabasha County Medical Society, Wabasha, July 6, 1905.

DIAGNOSIS

The symptoms just enumerated are usually so characteristic that it is not difficult to recognize the condition, but occasionally there are cases where it is very difficult to determine whether the mastoid is affected or whether the symptoms are due to the condition in the tympanum.

There are two signs upon which the most dependence must be placed, and when they are both present certainly indicate mastoid involvement.

1. Local tenderness over the mastoid region.

2. A depression or bulging of the superior-posterior wall of the external auditory canal close to the tympanic ring.

PROGNOSIS

In uncomplicated cases subject to early treatment the prognosis is favorable, but when there is extensive destruction of bone and intracranial involvement the prognosis is unfavorable.

TREATMENT

If the patient is seen early an attempt should be made to abort the attack. This may be done by keeping the patient quiet in bed on liquid diet, and by giving a saline cathartic at once. If the patient is seen before perforation of the drum-head occurs and there are signs of fluid in the middle ear, paracentesis should be done. This can usually be made under cocaine.

The incision should be a long one, for the tendency is to close soon. After free drainage has been obtained frequent irrigations with a warm antiseptic solution should be made, using either a saturated boracic acid or weak bichloride solution. The irrigation not only cleanses the parts and promotes free drainage, but also reduces the swelling and tumifaction as well. An ice-bag should be applied over the mastoid in the early stages of the inflammation, and should be kept on continually until either the inflammation subsides or it is evident that an operation is necessary. This is usually decided in from thirty-six to forty-eight hours.

Counter-irritation may be made over the mastoid, using either mustard or tincture of iodine. Leeches applied during the early stages often afford speedy relief.

If in spite of these measures the conditions do not improve an operation should not be delayed.

OPERATION

I will not burden you with a description of the different mastoid operations with which you are all doubtless familiar, but will simply state that the operation done in the cases I shall report was the simpler mastoid operation, or what is known as the Schwartze operation. The one most commonly performed and is adapted to primary abscess, or that condition in which it is necessary to penetrate the mastoid cells without entering the tympanic cavity.

CASE 1.—Elmer R——, aged 12, Stockholm, Wis. Called to see him November 19, 1902. Had an attack of the grip five days before. Two days later had severe attack of earache in the left ear. On day following had discharge of pus from ear, with relief of pain for a few hours, followed by cessation of the discharge and a return of the pain. When I saw him he had a temperature of 102°, pulse 110, and coated tongue. He complained of severe pain in ear and side of head. Pressure over mastoid cells caused severe pain, but there was very little redness or swelling over the mastoid. Examination of the ear revealed the canal much swollen, and pus oozing from a perforation in the drum-head.

I directed the mother to syringe out the ear with hot boracic acid solution every two hours, and keep cold cloths over mastoid; also gave 1-10 gr. calomel every hour till bowels moved freely, and gave anodyne for pain.

Saw the patient on the following day, and there was no improvement; temperature 102.5°, tenderness over mastoid; discharge less. Advised them to bring the boy to Lake City for operation. On the following day after the usual preparations were made the boy was anesthetized, and an incision made over the mastoid down to the bone. No pus escaped, and an opening was made into the mastoid cells. They were found filled with granulation and pus. The pus, granulation, and necrossed bone were thoroughly removed; the opening in the bone packed with iodoform gauze, and the usual dressing applied. Twenty-four hours after the operation the temperature was 99°, pulse 90, and the

patient felt good. He complained some of effects of chloroform, but had little or no pain. Dressing was changed on the second, fourth and sixth days. The patient went home the seventh day, and returned to the office twice a week for dressing until the wound healed. He has had no trouble since. Hearing is practically normal.

Case 2.—Emma S——, aged 15. Was called to see her seven miles in the country on December 12, 1903. Patient had never had any ear trouble until two weeks previous. She caught cold going to school, followed by earache in the right ear. Had severe pain for eight days, and some discharge from the ear. No treatment except home remedies. Two days before I was called there appeared a swelling back of the ear, and as the father expressed it, "When the swelling came the pain left," and as the swelling continued to increase they sent for me.

I found the patient sitting in a chair with a temperature of 99.5° and pulse 90. There was a fluctuating mass over the mastoid process the size of an orange, which pushed the auricle forward at right angles to the cheek. I was not prepared to do a mastoid operation, but thought it advisable to open the abscess.

I anesthetized the patient, and opened the abscess. There was a free discharge of offensive pus, and the knife passed into the mastoid cells, and necrossed bone could be felt.

I returned on the following day with an assistant. The girl was again anesthetized, and the opening over the mastoid was enlarged down to the bone. Examination revealed that the external plate of the mastoid process was destroyed down to the top of the process. All of the necrossed bone, pus, and granulations were curetted out, the opening packed with gauze, and the usual dressing applied. The patient made an uninterrupted recovery. Hearing nearly normal in the right ear.

Case 3.—This was a case of Dr. W. F. Wilson's of Lake City. The doctor kindly furnished me the following history:

Miss Emily S——, aged 24. Had an attack of grip or scarlet fever, or both, between Christmas and New Year's, 1904. January 25, 1905, had earache for a few days, which disappeared without a discharge. About the middle of March had earache again with discharge from left ear. Came under Dr. Wilson's treatment April 1st. I saw the case in consultation with Dr. Wilson at his office April 11th. Temperature 99 2-3°, pulse 100, some discharge from ear, and a little tenderness over the mastoid. Irrigation with hot boracic acid solution and counter-irritation over mastoid until April 22d, with no improvement in symptoms when mastoid operation was performed. At this time there was marked tenderness over mastoid and swelling back of ear. Also marked bulging of superior-posterior wall of external auditory canal, with little discharge from ear. Temperature 101°, pulse 110. After the patient had been prepared in the usual manner she was anesthetized. An incision made over the mastoid, with the escape of quite a quantity of pus.

Examination of the bone over the mastoid cells revealed a small sinus, which admitted the top of a small probe. The sinus was enlarged, followed by the escape of a quantity of dark bloody pus. Although we realized that we had to deal with hemorrhage from the lateral sinus, we thought we were justified in opening up the cells and secure free drainage. The opening was enlarged and a curette passed into the cells. The removal of the granulations was followed by a profuse venous hemorrhage, which undoubtedly came from the lateral sinus. The opening in the bone was quickly packed with iodoform gauze, and a pressure bandage applied. The packing in the mastoid opening was not removed for three days, at which time the gauze was slowly removed without any recurrence of the hemorrhage. After operation the temperature ranged from 100° to 104°, and the pulse from 90 to 120 for several days. The wound did well. There was a good deal of swelling of the glands of the neck, also stomach was out of order, with nausea and vomiting. Examination of the urine revealed albumin. She was subject to chills with rise of temperature until May 6th, after which time the patient improved in every way. Albumin disappeared. Saw patient two weeks ago. Wound entirely healed. Hearing nearly normal in left ear; in short, a complete recovery.

NOTES ON ANESTHETICS*

By Charles A. Lester, M. D.

WABASHA, MINN.

The subject of anesthesia and anesthetics is one of perennial interest to all physicians, whether surgeons by preference or not, and is one that should have the attention of all of us who are ever called upon to administer an anesthetic—and who of us is not? It is true that practically all that can be said about it up to date has been said in recent monographs and various publications, but each and every one of us has experiences which, if brought out on occasions of this kind, will be helpful, whether we recount our successes or failures.

I will not attempt to enter into the history of anesthetics, with indications for each, etc., nor will I attempt to give a mass of statistics or a miscellaneous lot of information drawn from different sources, or culled from different books and papers that are as accessible to you as to me. I will speak only of my own personal experiences, with but few exceptions, of the different methods of administering anesthetics, and meeting the dangers that arise during their administration, and how best to avoid such dangers. Neither can I present any new method or instrument, but I am content to use what smarter men than I am have already provided.

The two anesthetics most commonly used are chloroform and ether. Ether is probably used by a greater number of men as a matter of routine than chloroform, yet some of the very best men consider chloroform preferable in competent hands. Personally, I prefer chloroform in selected cases, but I believe it requires much greater skill and experience to give it than to administer ether.

The question naturally arises, What are the cases where chloroform is preferable to ether, and *vice versa?* If the heart is in good condition, the pulse full and regular, and the patient is free from lung involvement of any serious nature, chloroform is my choice. If there is albuminuria, I prefer chloroform even where there is a heart lesion, except of a grave type. While chloroform affects the heart and slows and weakens its pulsations, we have at least the satisfaction that if we get our patient off the table and over the immediate effects of the anesthetic, all danger from that source is past, while if ether is given death may result even after several days have elapsed, from kidney involvement.

I have never kept definite track of the number of anesthesias I have given, but I am confident five hundred is a conservative figure for the past eight years. In that time I have never seen a death due to chloroform. Personally, I have administered ether probably once to chloroform twenty times, yet even with this small percentage I know of three deaths that I attribute in part at least to the effects of ether on the kidneys, all occurring within seventy-two hours after the operation. In each of these cases the anesthetic was started with chloroform, but it had to be withdrawn and ether substituted on account of the heart failing under its effects. In two of these cases there was no albuminuria previous to the operation, and in the third no previous examination was made, as it was an emergency operation for strangulated hernia. In each case, however, the patient rallied well, and died within three days of uremic poisoning. Provided, then, that the condition of the patient warrants it, I prefer to administer chloroform. When albuminuria is present, I believe the after-effects of ether is a graver danger than the immediate effects of chloroform, even though the heart be slightly affected.

In administering chloroform, we must remember that the chloroform vapor should be mixed with atmospheric air in a strength not to exceed 2 per cent. Even this strength is decidedly irritating at first, and the less that is given for the first few inhalations the better. There is an apparatus now on the market, described in the Year Book on Surgery, by which the chloroform percentage may be controlled to a nicety, from 0 per cent to 2 per cent, but its cumbersomeness makes it impractical, except for hospitals where it can be permanently installed. We must depend as a rule on the open mask. In order to get the best results, the mask should be thin enough to allow a very free circulation of air through

*Read at the annual meeting of the Wabasha County Medical Society, Wabasha, July 6, 1905.

its meshes. Two thicknesses of No. 1 gauze is sufficient, or three thicknesses of a more loosely woven gauze. With a mask covering as thin as this, care must be taken to hold the dropping bottle close to the mask or the liquid is likely to penetrate the gauze, and reach the patient's face as a fine spray of chloroform. Annointing the face with sterilized vaseline will prevent chapping by the irritating fumes, but will not prevent irritation if the liquid chloroform itself comes into contact with the skin. Before starting at all the patient should be encouraged to submit passively to the effects of the anesthetic. He should be warned that the first effects will be disagreeable, and will probably cause a choking or smothering sensation. That if he will endeavor to breathe quietly through the nose, however, and compose himself to sleep, the disagreeable feeling will be only of short duration. Request him to breathe quietly and naturally, avoiding both long breaths and holding the breath. After thus gaining his confidence, and assuring him of constant and careful attention, warn him to close his eyes to avoid the irritation caused by the fumes, lay a small towel or a piece of gauze over the eyes, and begin the administration by allowing a single drop of chloroform to fall on the mask, which is held at least six inches above his face. I believe this to be an absolutely safe way of starting chloroform, and that the danger of heart failure from the first inhalation is entirely obviated. After about five seconds give the second drop, and then continue at five-second intervals for about a minute. Then gradually increase the number of drops per minute, and at the same time constantly bring the mask nearer to the face so that at the end of four or five minutes the mask is about an inch above the face, and forty to sixty drops per minute are being given. By this time the patient will be used to the smell and feeling of the fumes, and will also begin to feel the anesthetic effect commencing. It is now time enough to keep constant watch on the pulse. This may be done by letting the third finger of the left hand fall on the facial artery where it crosses the lower jaw. The little finger will be behind the angle of the jaw and can hold the jaw up, assisted by the middle finger further forward under the chin, and the first finger and thumb will hold the mask in proper position. The drops may now be gradually increased in number up to ninety per minute, and at the end of about ten to fifteen minutes from the time the first drop is given the patient will be well under the influence. During the period of approaching unconsciousness the patient may stop breathing, but will generally begin promptly upon being told in a firm, quiet way to *breathe*. If, however, he does not do so, a few artificial respirations will start him off all right, or even pressing once or twice over the epigastrium will do so, and, provided the circulation is all right, the chloroform may be resumed without hesitation.

Above all things, *don't hurry*. If the operator says, "Hurry up, hurry up with the anesthetic," don't get mad, but, also, *don't hurry*. Remember he has a load of responsibility, and is to some extent is on a nervous strain, no matter how old a hand he may be at the business. Insist on quiet in the room, and let no one influence your own ideas as to how fast to give it, as the anesthetist is responsible, not the would-be advisers.

One of the questions always asked is, How are we to tell when the patient is "ready"? There are several signs which indicate thorough anesthesia. These are quiet, regular breathing, relaxation of all muscles, loss of conjunctival reflex, and contracted pupils. All of these must be watched for, as they are not all invariably present. For instance, the pupils as a rule dilate in the second stage, and contract when the third stage is reached, only to dilate again as the patient approaches the danger line from too profound anesthesia. In the dilatation of the second stage, however, the pupil will, as a rule, respond to light, while in the profound stage it is motionless. But it may never contract after the dilatation of the second stage, but remain dilated throughout the operation. Again, the conjunctival reflex is frequently lost before the third stage is complete. It is not at all a reliable sign. It is one which is much relied upon, however, and which is much condemned as "barbarous," "septic," etc. As far as the sepsis goes, if the anesthetist is worthy of his job his hands will not be so septic as to hurt the conjunctiva by a light touch. I do not use this sign, because I cannot depend upon it, not because it is bar-

barous. A much more reliable sign of complete anesthesia, and one which I have not seen mentioned in any writing on the subject, is the loss of sympathetic closure of the lids; that is, before anesthesia is complete, even after the conjunctival reflex is lost, if one eyelid is raised, the other eyelid will show slight contraction. If raising one eyelid produces no movement whatsoever in the other, anesthesia is nearly always complete. Even this is not absolutely reliable, and must be considered together with the other symptoms present.

After the stage of operative anesthesia has been reached, as little chloroform as possible should be given, but it should be given regularly. I have found that about thirty to fifty drops per minute is the average amount necessary, but frequently as little as twenty drops may be used. Even at this rate it may become necessary to suspend the chloroform if danger signals are shown, but if the patient has been put into just the proper stage and not overwhelmed to begin with, he can be carried indefinitely in this way. The pulse must be watched very closely, as well as the color of the patient, as frequently the color will get bad before the pulse fails, and then the failure will be very sudden. Of course the thing to do is to withdraw the anesthetic and give fresh air, artificial respiration, etc., as you are all familiar with. Kelly's method of artificial respiration is the best, in which the patient is lifted bodily off of the table by grasping him around the waist, and letting the head and shoulders hang down for inspiration, and laying the patient down on the table again for expiration. If respiration does not promptly begin, dilate the sphincter ani with two fingers and the thumb about once in three seconds. Rapid, frequent dilatation will soon destroy the value of this reflex. Administered in this way, chloroform is used up at the rate of about 2 oz. or a little less per hour. I have given as little as 6 drachms in an hour. The patient suffers but little inconvenience while going under, and wakes up promptly. In fact, I have twice given chloroform to a sleeping child without rousing it.

The pulse will always slow up under chloroform, but if it falls to 56 or less it is time to withdraw the chloroform, unless the pulse is unusually full and strong. In such a case less of the anesthetic should be administered, and if no recuperation takes place then withdraw until the condition is improved, when the chloroform may be resumed. If it gets worse, however, I withdraw the chloroform, and administer ether. I never give, during the anesthesia, a hypodermic of any stimulant unless absolutely necessary. It makes the subsequent period of the operation more difficult than ever to handle. Some observers claim that it does no good anyhow, as the circulation is too poor to take it up when the patient is blue, and the heart weak and faint, but I feel safer with my hypodermic ready loaded and handy than without it.

Sudden dilatation of the pupils and cessation of respiration are both signs of profound anesthesia, and the chloroform should be withdrawn, and artificial respiration kept up until the respiration is again automatic. If the color returns to the skin, the pupils contract, and breathing becomes regular, chloroform may be commenced again, but more slowly than before. If the respirations are not readily resumed, I give hypodermic of strychnine sulph., gr. 1-30, and nitroglycerine, gr. 1-50.

Children are peculiarly susceptible to the toxic effects of chloroform, and ether should always be given them for operations of any length.

In the administration of ether my experience has been that the patient does not go to sleep as easily as with chloroform. Ether must be given with much less atmospheric air than chloroform, and for that reason the patient objects to it much more at first. In Miss Magaw's valuable paper on this subject, read before the state society last year, she claims to be able to give ether with as much comfort to the patient as chloroform. This is not so in my case, though of course my experience has not been anything like as extensive as hers. Patients whom I have had the opportunity of anesthetising two or more times with different anesthetics have expressed themselves as suffering much less inconvenience from chloroform than from ether, both before and after the anesthesia. At present I can recall but two such cases, in each of which I had administered chloroform twice, but at the third administration nausea followed the first whiff of chloroform and at the patient's request I substituted ether—much to his subsequent disgust.

I remember giving chloroform to one lady who had previously been anesthetised with ether, and who dreaded the experience very greatly. I used chloroform, however, and after the operation she told me she would never object to chloroform if it was always as easy as that. This may indicate that in her case ether was more disagreeable, or possibly that it was badly administered.

When ether seems to be preferable I begin with chloroform until the patient is in the primary sleep, then switch to ether. I note that this is the method advised by Ochsner in his book on surgery. In giving the ether I use the open mask and continuous drop method, as recommended by Miss Magaw. I use a mask made of six or eight thicknesses of gauze, and cover the patient's face with a large towel wrapped around the mask and face so as to leave only about two square inches of gauze uncovered to breathe through. I then drop the ether on the small exposed surface, so that the patient gets as nearly pure ether fumes as possible. Miss Magaw states that it is surprising how little ether administered this way will keep a patient under. In my experience the ether must be continually dropped as fast as can readily be counted, say, 200 drops per minute. Of course in stomach or intestinal work the parts are not very sensitive, and the patient may be permitted to almost wake up, but in other work I can't say that my experience agrees with hers. I do not say this to disparage her, but because I started out to give my own experience, not a lot of other people's that you can get from their writings as well as I can.

More profound anesthesia of any kind is needed for gall-bladder work than for stomach work, because of vomiting when the diaphragm is irritated. Given in this way, ether is used to the extent of about 8 ounces per hour.

Post-operative vomiting is something that depends on a number of factors, as pointed out by Boise in his splendid article in "Surgery, Gynecology, and Obstetrics," for July, 1905. I will not attempt a résumé of his conclusions, but merely mention it to say that I have not been able to see that any measures I have ever used had any effect on the vomiting. Some will vomit and some will not, no matter what is done or is not done. I think if only sufficient anesthetic is given to keep the patient quiet the liability to vomit is much less than when he is allowed to nearly die or nearly wake up two or three times.

INFANT FEEDING*

By C. E. Gray, M. D.

KELLOGG, MINN.

When we consider the fact that one-third of all children born die within the first year of life and that the percentage of artificially-fed babies is considered greater than that of those fed from the mother's breast, the feeding of infants presents itself to us as one of great importance.

"The astounding mortality in the first year of life proceeds from disease which has its inception when the stomach was unequal to any function except that of absorption."

The digestive system of the new-born infant is very premature, and so continues from the third to the sixth month of life, when the entire digestive function is established; feebly established at first, but gradually strengthening from the sixth month on through infancy. During the earlier period then the infant is unable to convert starches into sugar; to emulsify fats, or to digest any but the simplest of proteids. But in her goodness nature has considered this fact, and has given in the mother's milk a simple and easily digested sugar, a finely emulsified fat, and the simplest of proteids—the milk albumin. Nature has provided for her offspring better than man's ingenuity and skill can provide, but there are circumstances which necessitate providing for the baby from other food than its mother's milk, and among these are death of the mother, hare-lip or cleft palate in the child, tuberculosis of mother or syphilis lately contracted, abcess of

*Read at the annual meeting of the Wabasha County Medical Society, Wabasha, July 6, 1905.

the breast, retracted nipples, pregnacy, lack of milk, or a poor milk which cannot be improved enough to supply the child's demands.

There is generally a peculiar relationship between the baby's digestive function and its need, and the properties of its own mother's milk which puts mother's milk second to no other milk or food; hence the advisability of supplementary feeding in those cases in which the mother is unable to supply a sufficient quantity of milk for her child. When, of necessity, the baby must be provided for from other food than its mother's milk, we find that human milk, though not the mother's, is second to it, and we turn to the wet nurse. But there is no more difficult or thankless task than the procuring and supervision of a wet nurse, and she has been defined by someone as "one part cow and nine parts devil." The difficulty in procuring a suitable wet nurse, together with the expense, in by far the great majority of cases, forces us to look for the baby's food elsewhere. Statistics have proven that the human milk is the best food, therefore, when we must depart from this, it is only natural that we select a food which resembles this as closely as possible, both chemically and physiologically. The average chemical analysis of woman's milk, taken from the results of various authorities, is as follows: Water 87, solids 13, fats 3 to 4, proteids 1 to 2, and sugar 7, alkaline in reaction, and free from bacteria.

The milk of the same woman varies greatly at different times during the lactation period, and Professor Harrington of Harvard University found from the analysis of the milks of fourteen healthy mothers a very wide range of difference in the percentages of sugar, fat and proteids though "the infants were all digesting well and gaining in weight."

Just a word for patent or proprietary foods. Although I have used Horlick's Malted Milk Modified with success, the use of these foods should generally be condemned. They are usually too high in proteids, too low in fats, and contain an excess of carbohydrates made up of various and foreign ingredients, such as maltose, glucose, milk sugar, dextrin, and cane sugar, and even raw starch is found in some foods. The fact that no two babies' needs and digestive functions are the same, often necessitates experimenting with a number of these foods before a suitable one is found. This is anything but scientific. We should be governed in selecting and modifying a baby's food according to its symptoms, need, and digestive powers.

Chemical analysis shows that the milk of horses, asses, and goats resembles the human milk closer than that of the cow, but owing to the difficulty in obtaining any of these, cow's milk is resorted to as a basis for modification. The analysis of cow's milk (Leeds & König) is as follows: Water 87, solids 12 to 13, acid in reaction, fat 3.7, proteid 3.75, and sugar 4.6. In comparing cow's milk with human milk we find the water and solids about the same; but the reaction is different, the cow's being acid while the alkalinity of the woman's, as pointed out by Rotch, plays a not unimportant part. The fats are practically equal, though in the woman's milk it is more finely emulsified. But the great difference is found in the sugars and proteids; the sugar in woman's being 7 per cent to the cow's 4.5, and proteids but 1.5 to the latter's 3.75. But there is a still greater difference when a comparison is made of the composition of the two proteids, the woman's showing 1.3 albumin to the cow's .7 and but .6 per cent of casein in woman's to 3 in cow's. When we consider the fact that the cow's milk contains five times as much casein or the proteid of harder digestion and but one-half the amount of milk albumin or simpler proteid we are aware of the fact that here lies the difficulty in modifying. "Some method other than the addition of water must be practiced in the management of this troublesome element" (casein). It should either be reduced five times or eliminated, the elimination often being better in the feeding of the young infant of one or two months, and the delicate infant of poor proteid digestion, but at the same time the milk albumin must be retained. This twofold object, the total elimination of the casein and retention of the albumin, is found in whey. The analysis of whey is as follows (Churchill, in the J. A. M. A., May 27, 1905): Milk albumin .8 to 1, fat .32, sugar 4.79, salts .65, and water 93.38. To this as a basis may easily be added the proper amount of sugar, and fat in the form of cream. The reaction, which is acid, may be

changed to alkaline by the addition of lime-water.

"The value of whey in the feeding of infants has been known for a long time, but the true reason of its value was first pointed out by Wescott and was the natural outgrowth of his study of Rotch's percentage method of feeding." Woman's milk is free from bacteria, while the commercially handled cow's milk contains many bacteria. With the exception of a bacteria-free food, this milk modification can be made to approximate very closely the woman's milk.

Pasteurization accomplished this, and at the same time kills the rennet ferment used in making the whey. There has been considerable discussion upon the subject of Pasteurization and sterilization, many claiming that they are harmful to the nutritive qualities of cow's milk, while Bartley (Brook. Med. Rec., March 1, 1903) even claims "that infants fed upon it continuously are prone to develop rickets and scorbutus." High heat coagulates milk albumin and makes casein harder of digestion (Baginsky). Smith claims that "heat above 165° F. destroys the starch fermenting ingredient of milk (galactozyme), and because of the absence of ptyalin in the saliva the first few months of life, this is quite a loss.

The fat emulsion is destroyed, and the fatty particles form drops which must again be emulsified by the baby's digestive organs, but the bile, or fat splitter, being absent the first five or six months of infant life, makes this another important factor. Milk albumin and casein are coagulated at 167° and 185° F., respectively, but since "Pasteur and others have demonstrated the fact that a temperature of 160° to 167° F. continued fifteen to twenty minutes destroys the germs of tuberculosis, scarlet fever, pneumonia, and bacteria, as well as developed germs of almost any kind, "it will be seen that a higher temperature is not only unnecessary, but harmful."

Certified milk, or milk containing not more than 1,000 bacteria per c. c., is a step in the right direction, and the profession should urge its use among the laity, and help establish more certified dairies. But until a much cleaner milk can be produced, Pasteurization must be employed for the baby's safety.

Study and investigation have accomplished a great deal in the better methods of modification of cow's milk during the past ten years. The Walker-Gordon system of prescription writing for baby's food has made the lot of the physician in some of the large cities which have these laboratories a much easier and more scientific one. But the cost of this milk, with the expense of delivery, makes it beyond the reach of the poor.

The physician of most cities, as well as those of the country, must not only write his prescription, stating the amount of the various ingredients of milk he desires, but must also ascertain how much of cream, milk, sugar, and lime-water he must take in order to fill his required prescription.

The percentage of fat in cream should be obtained by chemical analysis, and the same proportion under like conditions should always be taken. This should contain 15 or more per cent of fat. As an average the upper one-fifth of a specimen of milk after standing twelve hours, gives about 16 per cent of fat, 4 of proteid, and 4.57 of sugar.

Bauer has given a simple method of calculating any desired composition of modified milk. Let Q equal the quantity, in ounces, for 24 hours; F the desired per cent of fat; S the per cent of sugar; P the per cent of proteid; A the per cent of alkalinity; C the cream; M the milk; LW the lime-water. We then get the following formulæ:

1. Cream equals Q divided by F in C minus 4 multiplied by F minus P.

2. Milk equals Q times P divided by 4 minus C.

3. Lime-water equals A divided by 100 multiplied by Q.

4. Water equals Q minus C plus M plus LW.

5. Milk sugar equals S minus P divided by 100 multiplied by Q. (Edgar's Obstetrics.)

Rotch (British Med. Jour., September, 1902) and most other authorities favor the use of milk-sugar to that of cane, which is a double sugar, harder of digestion, changing less readily to lactic acid, and more readily to butyric acid. Lime-water is generally used in about the proportion of 1 to 15, or 6.25 per cent. Symptoms and signs of fat, carbohydrate, and proteid indi-

gestion are well given by Churchill (J. A. M. A., May 27, 1905).

Vomiting soon after eating, loose, yellowish to greenish-yellow stools containing particles of unabsorbed fat, and, in some cases, constipation with nervous manifestations, are often produced by an excess of fat. Lack of fat is shown by slow gain or loss in weight, and by rachitis.

The infant's heat loss is a great deal larger in proportion to its weight than that of the adult, therefore the greater proportion of sugar or heat-producer is needed, and digested.

Sugar indigestion is more seldom met with than is generally supposed, though tympanites and "wind colic," with belching and passing of gas, often indicate an axcess of it. The stools may be greenish in color with sour or acid odor. Deficiency in sugar may retard the growth of the infant.

An excess of proteids may produce "severe colic and foul-smelling stools, with large curds and often mucus. The putrid character of the bowel movements is particulalry characteristic of proteid decomposition and indigestion. Infants fed on a diet deficient in proteids are apt to be anemic, to gain slowly in weight, are soft and flabby, and later their digestive powers are decidedly impaired."

Buttermilk has long been used in Holland as an infant food. In 1895 an article appeared by D. E. Jager describing its use. Since then many eminent German pediatrists have published articles upon its use and merits, among whom were Prof. Schlossman and Prof. Baginsky. The latter, in his experiments, used it at first only on "those cases which failed to improve upon sterilized milk or upon any other known infant food. He began its use very sparingly at first, and used it freely only when marked improvement was seen in the desperate cases." Since that time buttermilk has forced all other feedings to the background. "The food was made by adding 15 to 25 gms. of wheat flour and 35 to 50 gms. of cane sugar to one litre of fresh buttermilk, and boiled for two minutes. The percentage analysis is far from an ideal infant food: fat .36, proteid 3.9, sugar 4.2 to 5.7, starch .26, acid in reaction. This food was borne as well by infants of two months as by the older ones. Perhaps we Americans are too slow in acknowledging the merits of a food which has been used with such good results in Europe.

There are probably more digestive disturbances caused by feeding the baby too often than would naturally be supposed. So much has been written regarding regulations of both time and amount of feedings for infants at various ages that, our time being limited, it will not be discussed in this paper.

SUMMARY

1. Mother's milk is baby's best food.
2. A suitable wet nurse is the best substitute.
3. An ideal food is one which approaches woman's milk as closely as possible, both chemically and physiologically.
4. Cow's milk is generally used as a basis for modification.
5. Whey modifications are most suitable for infants of poor proteid digestion.
6. Proprietary foods are generally to be condemned.
7. Buttermilk is a food which might well be experimented with by the profession of this country.
8. Pasteurization is a necessity under present conditions.
9. And, last, don't overfeed the baby.

NOTES ON THE MANAGEMENT OF THE NEW-BORN INFANT*

By W. T. Adams, M. D.

ELGIN, MINN.

Since there is no period in the existence of the individual so fraught with peril as are its first moments, it seems resonable that we should pause a few moments in our determined investigation of weightier matters of scientific research, and consider the necessities and demands of the helpless beginner in the great drama of life, the new-born infant.

You will observe that the writer does not follow the dictum of authors or clinicians, but gives a technique which is deducted from many years of study and experience in a country practice, where much of his work has been done without the aid of a competent nurse.

At the moment of birth, wipe all secretion carefully from the mouth and face, and if the baby cries out lustily, sever the cord, wrap the body in

*Read at the annual meeting of the Wabasha County Medical Society, Wabasha, July 6, 1905.

well warmed soft flannel, and hand it to the nurse, with instructions to keep it warm. If the labor has been premature, or abnormal in any way, and the infant is exhausted or enfeebled from any cause, and respiration is not established at once, the cord should be examined for pulsations. If present and strong, no immediate anxiety need be felt; but if absent or very feeble the most prompt effort must be made to start the act of respiration. I turn the body quickly from side to side, gently compress the chest with short quick touches with the palms of the fingers, and at the same time blow my breath in sharp quick gusts upon the surface of the body and face, and if not successful I dash a brisk sprinkle of cold water upon the surface from the tips of my fingers. The frequent turning of the body favors the closure of the foramen ovale, while the shock to the surface will nearly always start the reflexes, and respiration is established, remembering always the extreme delicacy of the infant not to do it violence.

While making the above efforts, if the case seems doubtful, I call for a large pan of water as hot as I can well bear my hands in, and when it comes, if the baby does not breathe, I plunge it into the water, supported by the hands, a moment or two, then lift it out, and expose the surface to the air and blow my breath briskly upon the surface, and plunge it in again. The momentary changes of temperature of the surface has a very decided effect in exciting the reflexes and starting the respiratory act, while the warm bath maintains the temperature of the body, which is of the utmost importance, and, if the bath is continued, the temperature must be maintained by adding hot water. It may be necessary to prolong these efforts from fifteen to thirty minutes. I like to see respiration well established and the color of the skin improving before I stop. The infant is then wrapped in well warmed soft dry flannel, and directed to be kept close to the fire, with a temperature ninety to one hundred degrees, and the body should be turned from side to side at frequent intervals.

The cord should not be severed until respiration has been established, unless the interests of the mother demand it, for I have a feeling that some benefit may be derived from it even if it does not pulsate, so long as there is a spark of life left. If the mother's interests do demand the removal of the infant, all the efforts above described for inducing respiration, should be persisted in just the same.

By careful inspection a very acurate estimate can be made as to whether or not the infant is alive. If there is a gradual deepening of color, though there is no pulsation of the cord or fetal heart discernible, there is life, and persistent efforts must be made to save it. If the infant is dead, the color will gradually assume the characteristic paleness, and further efforts to restore it will be futile. In all doubtful cases I feel that we make no mistake in an earnest attempt at resuscitation, and our efforts will often be rewarded by a living child, while a less determined effort would have been fraught with fatal consequences.

THE CORD

The cord is best tied with a good stout string. For this I use a piece of grocer's twine, doubled and twisted, more often than anything else. It has the advantage of being obtainable in every house, and it makes a large stout string that can be drawn down tight into the tissues of the cord, thus securing the vessels without danger of cutting it through. Any one ever having an afterhemorrhage of the cord will appreciate this suggestion. The toilet of the cord is best made by cleansing it, then wrapping it in a fillet of absorbent cotton that will stick to it as it dries. This is, in turn, wrapped in a larger pad of the same cotton. The object of this dressing is to promote the rapid desiccation of the cord, which keeps it from becoming offensive, and promotes the sloughing process and separation from the umbilicus. While I use the strictest aseptic precaution possible under existing conditions, I most strenuously object to the use of fats, boracic acid, or any other dusting powder or antiseptic in the toilet of the cord, believing that they retard the disintegrating process by which the cord is separated. After the cord is separated there is no dressing superior to boracic acid.

The umbilicus should be carefully examined for hernia, especially if the babe has cried much. If one is present I have obtained excellent results by applying a small hard pad made by rolling up a ball of absorbent cotton the size of a small marble, which is pressed firmly in the umbilicus, and held in place with a strip of zinc oxide adhesive plaster. For this I use a strip of plaster

about one or one and a half inches wide, cut long enough to reach about three-fourths around the body. Each end of the plaster is split to within about three-quarters of an inch of the center. The ball of cotton is stuck fast to the plaster at the center and held firmly in the navel, while the ends of the plaster are drawn firmly around the body, taking care to separate the two ends of each half of the plaster by about an inch space, as they are drawn down onto the skin. This is a most effective dressing, is easily applied, and if the navel is healed, may be worn a number of weeks without detriment. This dressing, with occasional renewals, should be worn constantly for from three to six months, when a cure of the hernia may confidently be expected.

If the babe is fretful other forms of hernia should be sought for and should be diagnosed, and attempts should be made to retain them in place with skeins of yarn or other devices, all of which will be more or less disappointing until the child is old enough to be fitted with a truss. Do not lose sight of the idea that most congenital hernias, if diagnosed early and properly retained for a number of months, can be permanently cured.

THE TOILET

If the babe has cried out lustily and seems vigorous, I allow the attendant to dress it as soon as she wishes, but if it is enfeebled and is having a hard struggle for existence, I do not allow it to be dressed until it has gained a fair degree of strength, waiting many hours, or even days if necessary, but have its body well anointed with lard or oil, and kept warm until it has become vigorous.

I am partial to an oil bath, but except in the hands of a trained nurse it is difficult to secure it. I always insist, however, that the soap and water bath be preceded by an oil bath. This cleans the skin, and the oil protects it. Lard or sweet oil is usually used, which is first sterilized with heat. I have a strong preference for lard, as it is very efficacious, and has a soft velvety effect on the skin. No irritating soap is allowed, and, usually, the less soft soap the better, vigorous scrubbing should not be allowed. It is far better to leave all the difficult places, such as flexures of joints, well annointed until next dressing, when they will become clean. The fact should never be lost sight of, that the skin of the new-born babe is extremely delicate and sensitive, and anything like irritating soaps, coarse towels, or rough clothing may cause any amount of suffering.

The bath should be made in a room with the temperature not less than eighty to ninety degrees, if attainable, bearing in mind that the infant has been used to a prenatal temperature of about one hundred degrees, and too great a change may be disastrous. The length of time devoted to the toilet should be made the shortest possible. Better by far to be a little neglectful, leaving all doubtful places well anointed, than linger too long. The prospects of many a babe have been seriously altered by too lengthy and too arduous a toilet. Fifteen minutes is sufficient time to dress any baby.

The wardrobe of the baby in most country homes is replete with good, warm, soft flannels or outing flannels, and need not be improved upon.

FEEDING THE BABY

Fortunately, in a country practice most mothers can nurse their babies, and not much responsibility rests on the doctor. It is my almost invariable practice to order the babe to the breast as soon as practicable after it is two hours old, if the mother's condition permits it, and to withhold all other feeding, unless it becomes apparent that the mother is furnishing no nourishment. If obliged to feed, I direct a little warm water to be fed with a spoon. To this a trace of sugar and sometimes a little cream is added. Boiling water poured over crackers and used in the same way, is sometimes ordered, if heavier nourishment is needed while waiting for the mother's breasts to fill. Very little trouble is experienced with babies managed in this way, but, unfortunately, with the average housewife nurse, babies are bound to be stuffed, and trouble follows.

There is no problem for the physician to solve more important than to direct the management of the artificially fed baby. The bottle-fed baby is bound to be an overfed baby, and no matter how painstaking the care, occasionally improperly prepared food will be given. If a good specimen of cow's milk can be had, I prefer it to anything else. I begin with about one-fourth milk in boiled water, to which a trace of sugar is added, preferably sugar of milk, giving two

to three ounces at a feed. Watch the stools. If curdled milk appears regularly, too much food is given. Lessen the milk, or it may be best to discontinue it altogether for twenty-four hours. If the milk is well borne the amount may be increased to one-third in two or three weeks. If the stools become green a little lime water is added to the milk with advantage, and for green stools with the breast-fed baby lime water mixed with sterilized water should be fed with a spoon.

As soon as it is determined that the baby must be fed artificially, I direct the bottle, and one of the old-fashioned ones with a rubber nipple drawn onto the nose of the bottle. No screw caps or long rubber tubes should be used. Of the endless variety now on the market, there is one called the "Hygenia" that appeals to our consideration. It consists of a glass cylinder about an inch and a half in diameter, with a large rubber nipple that draws on over the end of the cylinder, causing it to simulate the form of the mother's breast. The points that commend it are the ease with which it is cleansed, from its shape, the nipple cannot be drawn too far into the mouth, and, like all nipples that draw onto the nose of the bottle, there is no vent, so that the babe is obliged to let go at frequent intervals, thus securing the slow ingestion of the food. The long tube nurser will continue in favor with many mothers, because the babe can tend its own bottle, while all of the other kinds require more or less care while the baby is feeding. For hygienic reasons too much cannot be said against the long tube, cholera-infantum-laden nurser. A clean bottle should be used with each feed, and the milk supply should be secured fresh every morning and evening.

Occasionally there is a babe that does not thrive on cow's milk, and resort is had to some of the great number of artificial foods found on the market. It is a matter of trial and careful study of the effect on the digestive organs of the babe that will tax our patience to the utmost. If the food is correct the babe should gain weight. I make a point to return in a short time to cow's milk. I have a feeling that most cases of failure with cow's milk are due to mismanagement, but there seems to be an occasional case requiring a complete change of food. Nestle's Milk Food has served my purpose many times when other foods have failed, hence I am partial to it.

The interval of feeding should be about two hours in the day time, and at night it should be four or five hours. It is better to awaken the babe for feeding in the day time than to let it sleep too long intervals during the day at the risk of long periods of wakefulness at night. Remember that babies form bad habits very quickly, and they are very tenacious.

For the little rashes and icterus with which the babe is often afflicted, I frequently administer as a routine treatment a mild infusion of saffron, and it answers very nicely. The first appearance of eczema on the head, face, or body, is a signal of malnutrition, unless irritating soaps have been used. The stools will be likely to be green and undigested, and the chances are that an odor, sour and fermentive, will be present. Withhold the feeding in part; or a change entirely onto some of the artificial foods or rice water, with a little lime water added, will help to correct this condition, and is all the medication needed in most cases. Cleanse the affected parts with lard instead of water, using water very sparingly, and the occasional use of ung. zinc oxide containing a trace of tar, is valuable. Internally, I rarely resort to drugs, for with good nursing and proper food, the best results are obtained without them. If the debility is marked, a little cod liver oil in the form of an emulsion will aid nutrition.

For constipation which is most likely to occur in artificially-fed babies, I recommend the soap pencil, or glycerine suppository which is gently inserted into the anus part way and withdrawn, a time or two, and will usually excite an immediate movement. This is superior to enemata, and less likely to be harmful, and less likely to lead to fixed habits. If constipation continues after the babe is a few weeks old, I frequently use a laxative mixture simulating Castoria in composition, sometimes with the addition of a little cascara sagrada. Anodynes I never give, but rather, try to find the cause of irritation. A trifle of peppermint, a trace of camphor, or a little brandy water, is the full extent. A cross baby usually means something wrong with the feeding; but the existence of hernia, or of an abnormal prepuce, or the lack of urinary secretion, should not be lost sight of.

If the new babe does not make water, I will wait two or three days before I will resort to medical assistance, after satisfying myself that there is no mechanical difficulty. I sometimes trick the little fellows by pouring a little water into a bowl where they will hear it, or by pouring warm water upon the parts. This effort has often been rewarded by immediate results.

In conclusion let me suggest that the sphere of usefulness of the practitioner is bounded by the painstaking care with which he attends to just such details as my paper deals with. I would urge it strongly, that all physicians use their best endeavors to promote a sentiment in favor of the employment of trained nurses in obstetric practice, as there is no place where the services of a good nurse is more valuable, and where the attending physician realizes greater benefit from his intelligent assistant.

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THE AMERICAN MEDICAL ASSOCIATION

The Portland meeting is over, and the doctors from the East are looking over the haunts of the Westerner. For the first time in their lives many physicians are gazing, and are doing so with wondering eyes, over the glorious mountains of the Rockies; discussing the relative virtues and advantages of Western cities, and speculating on the values of certain mining properties which they may have acquired from a seductive promoter. But also from another point of view is the physician thinking of the Portland meeting. The program was unusually well arranged, and the papers were well received. The section on surgery was attended by crowds who were anxious to see and hear famous men discuss the improved methods in surgery. The other sections were fairly well balanced.

The attendance was about seventeen hundred registrations.

The address of the president, Dr. L. S. McMurtry, was on "The American Medical Association: Its Origin, Progress and Purpose." He gave the early history of the Association, and discussed the sections and the Journal. He called the attention of the members to the new era and the new organization, with medical education, medical legislation, and the Council of Pharmacy and Chemistry as special topics for their immediate consideration.

The oration on surgery was given by Dr. J. Collins Warren, of Boston. His subject, "The Surgeon and the Pathologist," dealt with the classification and treatment of benign tumors of the breast, and was a masterful plea for careful consideration of the entire field, a large subject with many subdivisions.

The oration on medicine, on "The Delay of Old Age and the Alleviation of Senility," by Dr. Chas. G. Stockton, of Buffalo, was particularly interesting. The orator thought it wise to handicap the impetuosity of youth that would otherwise outrun its limitations and make it practicable to keep the various functions of the organism, to preserve the physical and intellectual powers, to delay the onset of degeneration as much as may be, and to develop a race less prone to early decay. Notwithstanding the fact that senility is a pathologic process or is an inherent weakness, the miseries of degeneration may be avoided or lessened. The basis of delayed senility is the blending of germ-plasm of healthy, resisting, long-lived stock, but to accomplish this means more than a generation in which education must play an important part. When degeneration comes, functional insufficiency of the organs of elimination are the early symptoms. Autointoxications exist as a sequence, and hasten the destructive and obstructive changes. To relieve these senile advances Dr. Stockton urges systematic colonic lavage, stimulating baths with superficial massage, pulmonary gymnastics, and an abundance of pure water. He concluded his address with the statement that "Old age is repulsive when it is pathologic, but it is beautiful when it is physiologic."

The subject deserves more attention than it usually receives, and it is the part of wisdom for the physician to postpone its ravages, for he himself may be the pathologic victim.

THE OFFICERS ELECTED

The following were elected officers: President, Dr. Wm. J. Mayo, Rochester, Minn.; first vice president, Surgeon-General Walter Wyman, Washington, D. C.; second vice-president, Dr. K. A. J. Mackensie, Portland, Oregon; third vice-president, Dr. Eugene S. Talbot, Chicago; fourth vice-president, Dr. Edwin D. Martin, New Orleans; general secretary, Dr. George H. Sim-

mons, Chicago; treasurer, Dr. Frank Billings, Chicago.

There was no opposition to Dr. Wm. J. Mayo, as his elevation to the office was a foregone conclusion. His high standing, and the enthusiasm he created in the surgical meetings, were proofs of his fitness for the office. A banquet is to be given in Rochester at a later date to celebrate the event. It is expected that many physicians will attend this social function.

Minnesota feels honored by Dr. Mayo's election, and doubtless a larger number of Minnesota physicians will join the Association on this account. The delegation from Minnesota was better than usual this year, and double the number should attend next year.

Dr. Archibald McLaren, of St. Paul, was elected secretary of the Section of Surgery, and Dr. J. E. Moore, of Minneapolis, was elected chairman of the Executive Committee of the Section of Surgery. Dr. Moore was also honored by the first vice-presidency of the American Surgical Association, which met at San Francisco just prior to the Portland meeting.

THE MINNEAPOLIS CITY HOSPITAL STAFF

Dr. E. H. Beckman, the newly elected City Physician, has given a good deal of time to the selection of his staff, and has reorganized the attending, visiting, and consulting staff. There have been many changes, but both medical schools and those not connected with either school have been given fair and equal representation. The following is the staff:

SPECIAL ASSISTANTS

Assistant City Physicians—Dr. John Butler; Dr. W. F. Braasch, vice Dr. Hugh Wilson, resigned; Dr. W. J. McDougald recommended as a third assistant beginning with Nov. 1.

Superintendent of Nurses—Miss Bertha Erdmann, vice Miss Jeanette Larsen, resigned.

Pharmacist—J. O. Taft, vice B. Oberg, resigned.

Bookkeeper and Registrar—William Wright, vice A. D. Evans, resigned.

REGULAR STAFF

Medicine—Dr. Peter M. Holl, Dr. W. D. Shelden, Dr. George D. Head, Dr. C. W. Williams, Dr. C. H. Bradley, Dr. L. A. Nippert. Consultant, Dr. J. W. Bell.

Surgery—Dr. C. J. Ringnell, Dr. H. B. Sweetzer, Dr. J. C. Stewart, Dr. W. J. Byrnes, Dr. J. W. Little, Dr. W. E. Rochford.

Gynecology—Dr. C. G. Weston, Dr. F. A. Dunsmoor, Dr. A. W. Abbott, Dr. G. C. Barton, Dr. E. H. Beckman, Dr. A. E. Benjamin. Consultant, Dr. F. R. Woodward.

Obstetrics—Dr. W. H. Hallowell, Dr. J. C. Litzenberg, Dr. Florence Baer.

Diseases of Children—Dr. F. A. Knights, Dr. L. O. Dart, Dr. Martha B. Moorhead.

Contagious Diseases—Dr. W. K. Bartlett, Dr. T. S. Roberts, Dr. Jacob Hvoslef.

Nervous Diseases—Dr. W. A. Jones, Dr. L. M. Crafts, Dr. H. W. Jones.

Eye and Ear—Dr. J. D. Simpson, Dr. F. C. Todd, Dr. C. N. Spratt.

Nose and Throat—Dr. C. W. Bishop, Dr. J. A. Watson, Dr. W. R. Murray.

Skin and Venereal—Dr. S. E. Sweitzer, Dr. M. P. Vander Horck, Dr. George Crume.

Pathology—Dr. S. M. White, Dr. F. J. Corbett. Consultant, Dr. F. F. Wesbrook.

Orthopedics—Dr. Emil Geist.

HOMEOPATHIC STAFF

Medicine—Dr. W. B. Roberts, Dr. O. K. Richardson, Dr. George E. Ricker.

Surgery—Dr. A. E. Booth, Dr. R. D. Matchan, Dr. A. S. Wilcox.

Gynecology—Dr. E. E. Austin, Dr. R. R. Rome.

Obstetrics—Dr. Hugh Tungstead, Dr. Cora Smith Eaton.

Diseases of Children—Dr. P. A. Higbee, Dr. Margaret Koch.

Contagious Diseases—Dr. P. M. Hall.

Eye and Ear, Nose and Throat—Dr. F. M. Gibson, Dr. H. H. Leavitt.

Skin and Venereal Diseases—Dr. C. H. Neill.

BOOK NOTICES

THE OFFICE TREATMENT OF RECTAL DISEASES. An Exposition of the Treatment of all those Diseases, both Medical and Surgical, of the Rectum, Anus, and Sigmoid Flexure, the Cure of Which may be Accomplished without Surgical Anesthesia. By Rufus D. Mason, M. D., Professor of Rectal and Pelvic Surgery in the John A. Creighton Medical College; Etc., Omaha, Neb. Third Edition. Illustrated. Minneapolis: The Burton Company.

This book commends itself to the reviewer, very strongly indeed, in one important particular: It selects a field that needs to be covered, and covers that field thoroughly. It deals with the *treatment* of diseases that the general practitioner meets almost daily, which he should or must treat, but which he too often neglects or turns over to the specialist only after the loss of valuable time.

This is the third edition of Dr. Mason's work, and it has been much improved and entirely reset, it now bearing a Minneapolis imprint.

Dr. Mason is a very clear writer, and an examination of any page of the work will convince the reader that the subject has been thoroughly mastered by the author, and that he never fails to make his meaning perfectly clear. The author has also eliminated a vast amount of matter that might have served to make a bigger and more expensive book, and herein he has done the profession a real service.

It is a valuable book for every general practitioner, and especially for the younger men for whom it will be found to be a valuable guide as to what diseases they may safely treat, doing justice both to themselves and their patients.

PHARMACOLOGY OF THE FLUID EXTRACTS. By John S. Wright. Prepared especially for students of medicine. Indianapolis, Ind.: Eli Lilly & Company.

The author of this work has made an effort to give students of medicine an authoritative statement of the origin, the active principles, and the physiological effects of drugs usually administered as fluid extracts. In case the active principles of any drug have not been investigated and settled, their empirical uses are indicated. This is, indeed, a very commendable manner in which to treat the subject, and it never leaves the student in doubt about the drug he is considering. Valuable tables are given, and the general index embraces all therapeutic terms, names of chemical constituents, and drug or plant names found in the text.

It is a small volume bound in flexible leather, and is full of valuable matter readily found.

A TEXT-BOOK OF DISEASES OF WOMEN. By Barton Cooke Hirst, M. D., Professor of Obstetrics in the University of Pennsylvania; Gynecologist to the Howard, the Orthopedic, and the Philadelphia Hospitals. Handsome octavo volume of 675 pages, sumptuously illustrated with some 650 mostly original illustrations, many in colors. Cloth $5.00 net. Philadelphia: W. B. Saunders & Co.

This latest work of Dr. Hirst's is on the same lines as his "Text-Book of Obstetrics." As would be expected from a practical teacher, diagnosis and treatment have been given particular attention. The palliative treatment, as well as the radically operative, is fully described, enabling the general practitioner to treat many of his own patients without referring them to a specialist. A special feature is the thorough manner in which the author has treated modern technic of gynecic surgery. An entire section is devoted to a full description of all modern gynecologic operations, illustrated and elucidated by numerous photographs. The author's training in the subject of diseases of women has been like that of the specialists in the Teutonic countries of Europe, where gynecology has reached the highest level of perfection: namely, specialization in the diagnosis and treatment of diseases of women has followed a thorough training in the recognition and treatment of the complications and sequels of childbirth. This special training is evident throughout the entire work in the careful and thorough manner in which the subject is treated. The many illustrations are the most magnificent we have ever seen. With but few exceptions all are entirely original, having been reproduced from photographs and water colors of actual clinical cases accumulated during the past fifteen years. We most heartily congratulate Dr. Hirst and his publishers upon the production of such a magnificent work.

A Text-Book of Clinical Anatomy. For Students and Practitioners. By Daniel N. Eisendrath, A. B., M. D., Clinical Professor of Anatomy in the Medical Department of the University of Illinois (College of Physicians and Surgeons); Attending Surgeon to the Cook County Hospital, Chicago, etc. Handsome octavo of 515 pages, beautifully illustrated with 153 illustrations, a number in colors. Cloth $5.00 net. Philadelphia: W. B. Saunders & Co.

The subject of clinical anatomy is so closely allied to practical medicine and surgery that it is absolutely impossible for a physician or surgeon to practice his profession successfully unless he have an intimate knowledge of the human structure. The author states that the primary object of his work is to serve as a bridge for both the practitioner and student from descriptive anatomy, as it is usually taught in the first two years of a medical course, to its daily application at he bedside, in the clinic, or in the operating-room. The entire subject is discussed with a thoroughness and precision that spring from experience. The method of illustrating the subject is novel, special attention having been given to surface anatomy, outlines having been marked upon a normal artist model, and then photographed. They show clearly the relation of anatomic structures from a clinical standpoint, presenting to the practitioner a picture as met at the bedside with the skin covering the tissue. The text, illustrations, paper, typography, and binding are of unusual excellence.

A Text-Book of Pathology. Fourth Edition. By Alfred Stengel, M. D., Professor of Clinical Medicine in the University of Pennsylvania. Octavo volume of 933 pages, with 394 text-illustrations, many in colors, and 7 full-page colored plates. Cloth, $5.00 net. Philadelphia: W. B. Saunders & Company.

In this work the practical application of pathologic facts to clinical medicine is considered more fully than is customary in works on pathology. While the subject of pathology is treated in the broadest way consistent with the size of the book, a successful effort has been made to present the subject from a clinician's point of view. In the second part of the work, the pathology of individual organs and tissues is treated systematically and quite fully under subheadings that clearly indicate the subject matter to be found on each page. In this edition the section dealing with general pathology has naturally received the greatest care and the most extensive revision. Several of the important chapters have been practically rewritten. Among the subjects that have received the greatest revision are: Ehrlich's theory of immunity and allied processes; inflammation; the bacterial diseases, including typhoid fever, tuberculosis, yellow fever, and dysentery; and diseases of the blood. In the second part of the book—that treating on special pathology—the revision has also been considerable, so that this part likewise represents the latest advances in the subject of pathology. A very useful addition to the book is that of an appendix, treating of the technic of pathologic methods, and giving briefly the most important methods at present in use for the study of pathology.

Many new illustrations, including ten excellent plates, have also been added, and some of the old replaced by new ones.

A Text-Book Upon the Pathogenic Bacteria. Fourth Edition. For students of medicine and Physicians. By Joseph McFarland, M. D., Professor of Pathology and Bacteriology in the Medico-Chirurgical College, Philadelphia; Pathologist to the Philadelphia Hospital and to the Medico-Chirurgical Hospital, Philadelphia. Handsome octavo volume of 629 pages, fully illustrated, a number in colors. Cloth, $3.50 net. Philadelphia, London: W. B. Saunders & Company.

This work gives a concise description of the technical procedures requisite in the study of bacteriology, a brief account of the life histories of the important pathogenic bacteria, and sufficient description of the pathologic lesions accompanying micro-organismal invasions to give an idea of the origin of symptoms and the causes of death. Although but a short time has elapsed since the appearance of the previous edition, such rapid strides have been made in the subject of bacteriology, especially in its relation to pathology, that the author deemed it necessary to rewrite the work entirely. All the old matter has been eliminated, much news matter is in evidence, and, in fact, the subjects treated have been brought precisely down to date. What impressed us most were the chapters upon infection and immunity. All the new facts recently added to our knowledge of these subjects can here be

found. The value of the work as a book of reference has been materially increased by the introduction of a large number of references to bacteriologic literature. These have been thoughtfully chosen, and, in nearly all cases, give the sources of the original descriptions of the micro-organisms treated, and the important methods described. Another valuable addition is a bibliographic index containing the names of over 600 authors. The work is very commendable, and practitioners and students will find it of unusual value.

NEWS ITEMS

Dr. R. C. Faust has located in Salem, S. D.

Dr. Geo. E. Peterson, Hamline, 1905, has located at Forada, Minn.

Dr. N. J. Nessa, a late university graduate, has located at Madelia.

Dr. B. J. Branton, University of Minnesota, 1905, has located at Atwater.

Dr. R. H. Ray, of Walnut Grove, Minn., has moved to Kramer, N. D.

Dr. J. H. Heimark, of Cyrus, is doing post-graduate work in Chicago.

Dr. George B. Owen, formerly of Anaconda, Mont., has located in Butte, Mont.

Dr. M. M. Grove, of Chicago, a graduate of the College of P. S., has located in Dell Rapids, S. D.

Dr. A. J. Heimark, of Finley, N. D., was married last month to Miss Florence Powell, of Chicago.

Dr. H. B. Allen, of Cloquet, died last month of tuberculosis. Dr. Allen was a graduate of Jefferson, class of '83.

Dr. A. M. Griffin, of New York City, a recent graduate (1904) of the Maryland Med. Col., has located at Rapid City, S. D.

Dr. F. H. Knickerbocker, of Staples, who is in a Minneapolis hospital for his health, is greatly improved and is able to walk down town.

Miss Mary E. White, a graduate of Asbury Hospital in this city, has been elected matron and head nurse of the Owatonna City Hospital.

At the banquet given at Rochester last week in honor of Dr. William J. Mayo, president-elect of the A. M. A., the citizens presented Dr. Mayo a handsome loving-cup. But a more significant gift was that of a vase from the physicians now attending clinics at St. Mary's, given in honor of Dr. Mayo's *forty-fourth* birthday.

The Grand Forks (N. D.) District Medical Society, at its annual meeting last month, elected the following officers: President, R. H. Beek, Lakota; vice-president, Dr. F. J. King, St. Thomas; secretary, Dr. H. H. Healy, Grand Forks; treasurer, Dr. A. Westeen, Grand Forks. The society has a membership of fifty-four.

At the summer examination of the North Dakota State Board of Medical Examiners, held last month, thirty candidates were examined, and all but one passed. The following received certificates: Ray Lynde, Ellendale; R. W. Stough, Verona; S. J. Hillis, Berthold; C. L. Chambers, Bismarck; T. B. Combs, Overholt; Joseph Rogers, Donnybrook; A. W. Fisher, Jamestown; W. Christensen, Milnor; B. D. Lemery, Inkster; A. L. McDonald, Grand Forks; E. McEssy, Leonard; J. A. Perrin, Westhope; R. F. Brown, York; W. M. Brown, Cavalier; E. C. Stone, La Moure; C. Carl Henning, Washington, D. C.; C. D. Richmond, Denhoff; J. G. Arneberg, Grand Forks; H. O. Richey, Deering; T. M. Stixrud, Ft. Ransom; R. M. Cox, Hillsboro; W. G. Wendell, Grand Forks; L. G. White, Towner; W. G. Brown, Fargo; L. W. Hyde, Moorhead, Minn.; L. O. Stevens, Berwick; L. B. Greene, Sheldon; D. M. Aronsohn, Towner; Paul Bobillard, Olga.

The following amendment is now a part of the by-laws of the Minnesota State Medical Association:

Chap. IX, Sec. 15. It is hereby declared that the acceptance and performance, either or both of them, whether in person or by proxy, of any of the duties pertaining to the practice of medicine or surgery, under contract or stipulation, written, verbal, or otherwise, for any fraternal society, insurance company, club, or corporation which agrees to furnish to its members or patrons medical or surgical attendance, or requires its physicians to furnish such services to its members or patrons, for a fee or remuneration less than the minimum fee charged for the like services in private practice in that locality, is unprofessional practice; and such practice on the part of any member of the profession shall constitute sufficient ground for his rejection by or expulsion from any affiliated county society.

Nothing in this section, however, shall be construed as applying to government, state, county, or municipal institutions; nor railway systems, shipping or mailing companies, or their assistants; nor to prevent any physician or surgeon from extending his gratuitous services to the poor.

Sec. 16. All county societies in affiliation with this association are required to incorporate this Sec. No. 15 in their by-laws.

Sec. 17. Any affiliated county society admitting to or retaining in membership one who is guilty of the aforesaid unprofessional practice shall have its charter revoked, and shall be expelled from this association.

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SAMPLE ON REQUEST.

PUBLISHER'S DEPARTMENT

THE MOST SATISFACTORY METHOD OF TREATING HAY-FEVER

It is now regarded as a pretty well established fact that hay-fever is a neurosis with a peculiar local manifestation of hypersensitiveness of the respiratory mucous membrane. Excessively humid air, dust, the pollen of certain plants, attenuated particles of matter, and certain volatile emanations cause a pronounced irritation of the mucous membrane. This is indicated by violent fits of sneezing; copious discharge of mucus; sensation of burning in the pharynx and postnasal vault and sometimes in the region of the forehead, the eyes, and the cheeks; more or less headache and difficulty of breathing, due to nasal stenosis produced by turgescence of the mucous membrane; and, in not a few cases, cough and bronchial asthma. These phenomena are undoubtedly the direct reresult of the vasomotor paralysis that follows the primary irritation. They are caused by an engorgement of the tissues resulting from excessive dilatation of the capillaries. So much for the etiology and pathology of the distressing condition that annually incapacitates thousands of the most valued citizens of the country every year, and for which no method of treatment heretofore has proved more than palliative.

With the discovery of the remarkable therapeutic properties of the suprarenal gland, and the isolation of its active principle, Adrenalin, a new day dawned for the hay-fever patient. As our experience with Adrenalin increases we are more than ever convinced of its efficacy. Its very satisfactory and exceeding prompt action in controlling the paroxysm is simply charming to physician and patient. It affords the sufferer the grateful relief from physical torment and mental anguish that he once learned to expect from cocaine; but the dangers and inconveniences of cocaine are entirely wanting after the use of Adrenalin. The latter powerfully contracts the capillaries, reduces the turbinal turgescence, thus relieving nasal stenosis, and checks the profuse flow of mucus. It also overcomes the sense of mental and physical depression that is so common in many chronic cases.

Adrenalin is used either in the form of the 1-1000 solution or the more recent Adrenalin Inhalant. The latter is a permanent oily solution also of 1-1000 strength. Either solution may be sprayed into the nares and pharynx during deep inspiration when it is desired to reach the lower air passages, or the nasal tissues may be treated by means of topical applications on cotton mops. It is unnecessary to use cocaine, as the Adrenalin solutions are not at all or very slightly irritating. Adrenalin is kept in the leading pharmacies of the country, and the physician should have no difficulty in procuring it at any time. Messrs. Parke, Davis & Co., who market the Adrenalin preparations, have published a brochure on the treatment of hay-fever that should be in the hands of every medical practitioner. It can be obtained by application to the Detroit office, or any of the branch houses.

ELASTIC CAPSULE MEDICATION

Eli Lilly & Co. have just issued a handsome illustrated pamphlet on Elastic Capsule Medication, giving in natural colors the important preparations of this class. The work is replete with concise therapeutic notes on the various oils and oleoresins used in modern medical practice and the forms in which they may be administered best. The book is addressed to the practitioner, and will be found full of useful information on this important and increasing line of recent pharmaceuticals. A copy will be sent to any practitioner on application to the publishers, Eli Lilly & Co., Pharmaceutical Chemists, Indianapolis.

AN OPINION BASED ON AN EXPERIENCE OF OVER TWELVE YEARS

Sanmetto is an excellent preparation, and in my opinion the best medicine of the kind today in the market. I have used it for over twelve years, and always with benefit. I have arrived at the age of sixty-seven years, when the plague of old men—enlarged prostate—is apt to annoy me, showing itself in frequent micturition, stoppage of urine, etc., etc. I intend to use Sanmetto on myself. I received some literature on Sanmetto this morning. I enjoyed the piece of poetry from my old friend, Eugene Field. It is very appropriate.—J. M. Campbell, M. D., Brooklyn, New York City.

HIGHEST ENDORSEMENT

The manufacturers of Sander & Sons' Eucalyptol were long ago honored by the distinction of counting European potentates (the King of Italy) among the patrons of their product. The analytical division of the Prussian government forwarded them a recognition of the purity and genuineness of their article and the Australian government botanist pronounced it to be a most excellent preparation. These distinctions are in themselves such high tributes to superiority that

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SOME PROBLEMS IN APPENDICITIS CASES*

By A. E. Benjamin, M. D.

Clinical Instructor in Gynecology, University of Minnesota

MINNEAPOLIS

The responsibility of a physician in the management of a case of appendicitis is great, even in the mildest form of the disease. A case with moderate symptoms in the beginning sometimes proves to be serious, and the responsibility is great enough for both the general practitioner and the surgeon. I believe, therefore, that the surgeon should see cases suffering with symptoms of appendicitis as early as possible, in order that early surgical treatment can be instituted if advisable.

It frequently happens that the physician neglects to follow the case closely because of the abatement of symptoms on the second day, when he is told that the patient is better and that he need not call. In his experience, so many cases have recovered without operation that he allows the patient or his relatives to judge.

A few of the questions which arise in the mind of the physician when called in to see a case suffering with supposed appendicitis, are the following:

1. Is the patient suffering with appendicitis, gall-stones, nephritic colic, indigestion, or pelvic inflammation?
2. If appendicitis, is it the first attack?
3. Has the appendix ruptured?
4. Shall he treat the patient medically and get him over this attack, or will he call in a surgeon?

The questions which arise in the mind of the surgeon are—

1. Is the case a simple appendicitis or one with complications?
2. If appendicitis, how long since the symptoms began?
3. What is the character of the infection?
4. Has the appendix ruptured?
5. When did the appendix rupture?
6. If ruptured, is the infection confined to one area or widely distributed?
7. Shall an immediate operation be performed, or will he wait for further developments?
8. Where will the incision be made, and what form of an opening should be made through the abdominal wall?
9. When pus is encountered on opening the abdomen, the question arises (*a*) whether a simple opening be made and drain; or (*b*) shall a search for further pus pockets be made; or (*c*) will he go still further and remove the appendix?
10. What shall be the subsequent treatment of the case?
11. When the appendix is removed, how will the stump be treated, and shall drainage be employed?
12. How will the abdominal wall be closed?

The above questions should be considered in almost all cases of appendicitis. However, I shall attempt to answer but a few of the important ones. As regards the time of operation, the pendulum has swung from one extreme to the other, and there are surgeons who maintain one extreme position or the other. In certain cases a successful operation may be performed at any time. If we could recognize the character of the infection and the true pathology of the case, some definite rule might be formulated.

There are certain symptoms which we may depend upon for guidance. All surgeons agree that if we could operate before rupture occurs

*This paper was contributed to our Hospital Bulletin department, but because of its length and general character, it is used as a general article.—Editor.

or before too much transudation of poison takes place, be that the first, second, third or fourth day, all would be well; but should rupture have occurred one or two days previous to the first visit to the case, the question of postponement arises.

In my opinion a simple operation, such as incising the abdominal wall under local anesthesia, or quiet, careful, primary, general anesthesia, without manipulation of the abdominal contents, can often be performed at most any stage with little danger. *It is not the operation itself, but the method of its performance which produces danger.* Most operators endeavor to do too much. They feel that they have done too little when they have simply incised the abdomen, and that is the great mistake that is frequently made.

The attempt at a complete operation in the presence of acute symptoms with pus and a high leucocyte count, is hazardous. The normal limit of the white count, temperature, and general state of the patient, as well as the least possible local involvement, should be approached before such an operation is performed. It is better that two or three operations be performed with a living patient as the result than to attempt a radical cure under adverse circumstances. The following case will illustrate some of these points:

Mr. C——, aged 30, had been sick two days with severe pain and vomiting. The appendix had apparently ruptured when first seen. The starvation plan was followed for a week. The temperature gradually declined, and the peritonitis subsided. He was removed to the hospital. An operation was performed about ten days after the attack began. An abscess cavity was opened, containing a great deal of pus. The appendix was not accessible; drainage was established. The starvation plan was adopted for a short time, until all the active symptoms subsided. The patient suffered but little after the operation. The wound gradually healed.

Two months later a complete operation was performed. It was found that the rupture of the appendix had occurred between the middle and outer third. The end had sloughed off. It was adherent to the omentum and to the right abdominal wall below Poupart's ligament. Adhesions were separated, appendix removed, and the patient made a steady convalescence.

Opinions differ as regards the treatment of the stump of the appendix. It has been the method of the writer to use nothing but catgut for suture and ligature material in all appendiceal work. This material is especially indicated where pus is present. A catgut ligature around the base of the appendix, a purse-string in the cecum, outside the base of the appendix, buries the stump, and in clean cases results in success. As an additional safeguard, the meso-appendix, which has been ligated, is stitched over the buried stump. When pus is present the stump may be left free in some cases. *When silk is used, especially in the presence of infection, adhesions and small pus cavities may form in this region.* Silk is a foreign body and is a constant irritant.

The after-treatment of appendicitis has been similar to the treatment previous to the operation. The continuation of the ice-bag, withholding of diet, in the bad cases washing out the stomach, nutritive and saline enemas, and bowel flushing, have proved especially satisfactory where there has been peritonitis, adhesions, or in pus cases. The convalescent period has been shorter, and less pain has been experienced. There has been less distension; vomiting has been less marked; and the subsequent condition of the patient more satisfactory.

The following case will illustrate the confusing symptoms in complicated cases:

Mrs. K——, aged 42, mother of several children, a woman of good physique. Was taken ill with severe pain in the pelvic, abdominal, and gastric regions, and with a rise of temperature to 100.5°. Vomiting was pronounced, and the patient was slightly jaundiced on the third day. The first day the pain became less severe in the gastric region; the second day the soreness was in the region of the appendix, and on the following day it was especially marked in the region of the gall-bladder and stomach. She gave a history of having had a similar attack four years previously.

The acute symptoms gradually subsided, and nine days after the attack an operation was performed. The center of the appendix was found firmly adherent to the right ovary. The omentum was adherent in front of the uterus and to both tubes; the end of the appnedix was bulbous. Both tubes were somewhat inflamed, and the

left had to be amputated. Both ovaries were cystic. They were resected, and the appendix was removed. Upon examination the gall-bladder was found to contain a great many stones, but owing to the condition of the patient they were not removed at this time. The patient made an uneventful convalescence, excepting about the third week after the operation, when she had an attack of gall-stone colic with vomiting. This gradually disappeared, and since that time she has been apparently well, although she still has gall-stones.

The following are some of the reasons for bad results or deaths in the treatment of appendicitis:

1. The patient or his family refuses an early operation.

2. The attending physician may not recognize the premonitory signs of a possible serious outcome, and has not urged an early operation.

3. The doctor may wait for developments, and thereby lose the opportunity of operating within the safe limit.

4. When an operation has not been advised, or has been refused when advised, a rigid starvation plan of treatment has not been followed.

5. The surgeon may acquiesce in the wishes of the family, and perhaps of the attending physician, that the operation be postponed, when in his best judgment an operation should be done immediately.

6. The surgeon may be persuaded, by the earnest solicitation of the patient, his friends, or the attending physician, to operate at the improper time.

7. The surgeon may neglect to study the history, symptoms, and conditions, closely enough to determine the proper time for, and extent of, the operation.

8. He may attempt more than the condition of the patient and the character of the inflammation would warrant, by breaking up adhesions and removing the appendix, thereby opening up new areas for the absorption of the poison.

9. The disturbance of the patient during the transportation to the hospital, and the excitement, straining, and vomiting, incident to the giving of an anesthetic, are factors in causing greater absorption and spreading of the infectious material.

10. The use of chloroform instead of ether.

11. The unnecessary length of the period of total anesthesia.

12. The improper administration of the anesthesic and in too liberal quantities.

13. Improper location of incisions.

14. The incomplete drainage of pus cases.

15. The employment of irrigation, and packing and repacking with gauze.

16. The unwarranted prolongation of the operation.

17. Too generous a diet just before and after operation in cases with much bowel involvement.

18. The incomplete preparation of the patient for an operation.

19. The attempt at a complete operation in the presence of pus, inflammation, or extensive adhesions and high white count.

20. The unrecognized advantages of the Fowler position in pus cases.

21. The presence of unrecognized complicating diseases within the abdomen, or the general bad condition of the patient with low percentage of hemoglobin.

22. The overlooking of secondary pus sacs.

23. The neglect in applying in the after-treatment the principles that govern us in the preliminary management of the cases.

24. The use of improper suture or ligature material.

25. The infection in simple cases, due to uncleanliness of the operator or his assistants.

26. The insecure fortification against diseased and infected areas.

27. The imperfect closure of the abdominal wall.

28. The employment of unnecessarily large incisions in ordinary cases.

29. The unnecessary manipulation of the bowel or tissue in the vicinity of the diseased area.

THE NEED OF A MORE RATIONAL THERAPY*

By J. W. Bell, M. D.,

MINNEAPOLIS

At this, our annual meeting, it is well for us to pause and look within, and inquire wherein we can improve and strengthen ourselves as a profession.

That the science of medicine has made substantial progress in all departments except materia medica and therapeutics is unquestioned. Surgery, the brilliant leader of medical advance, still keeps marching onward, making history as it goes, marking its onward march so clearly that, in retrospect, one can plainly and distinctly note its course from point to point during its brief but eventful modern career.

Preventive medicine is steadily moving onward, winning victories on every hand, thanks to the unselfishness of the medical profession. Therapeutics alone, of all departments in medicine, has for years occupied, and still occupies, an unenviable position; this is especially true of drug treatment, which forms a considerable, if not too large, a part of our present means of combating disease. Therapeutics, in its broadest sense, and in this sense it should always be used, includes not alone drugs, but all other agents of actual service in restoring health and prolonging life. That therapy is the one weak link in modern medicine all will affirm. Let us now, without prejudice, inquire the cause, and, if possible, suggest a remedy.

As physicians, we should remember that, in the eyes of the people, treatment is everything, the Alpha and Omega of medicine, and that by the results of treatment medicine is judged. We should also distinctly remember that we are called to the bedside, not to display our knowledge of bacteriology or pathology, but to relieve suffering and restore the patient to health.

As a profession, we have directed all our efforts and energy to the investigation, detection and prevention of disease, leaving the individual, ill with disease, to take care of himself, after we have christened his disease with a name, satisfactory to us, but often unintelligible to him. This course may appeal to our ultra scientific minds as being eminently just and satisfactory, but unfortunately it does not appeal to the sober common sense of the masses as being the only mission of the true physician. As practitioners, we wonder, after we have carefully christened the illness with a name, and completely failed with our hasty, ill-considered and ill-applied therapy, why our patients, failing to secure relief, embrace Osteopathy or Christian Science, thereby often securing relief which we should have furnished by means of mechano-therapy, hydrotherapy, or suitable drug treatment, aided by sound advice.

Until the last three decades, the treatment of disease was the most studied branch of medicine. The subject of therapeutics is the most difficult of the practical subjects to master, consequently I have no criticism to hurl at the recent graduate because of his failure to successfully combat disease at the bedside, but prefer to single out for criticism the old sinners,—the therapeutic nihilist and the so-called physician who permits a commercial traveler to do the bulk of his prescribing. Few, if any, of us, are entirely free from therapeutic sin, judged by our professional bible, the pharmacopeia; fortunately evidence of a desire to return to the fold is more and more apparent in our ranks.

Sir Dyce Duckworth (British Medical Journal, June 11, 1904), under the title of The Modern Pursuit of Novelties in Medicine, makes a strong plea for holding fast to that which is good. He especially deprecates the tendency of the present day to employ new and untried drugs, to the exclusion of those which have been tested for many years by skilled clinicians. After directing attention to our therapeutic foibles, he inquires what is the mischievious element in our modern system of therapeutics, and answers it thus: "A perpetual pursuit of novelties, an untiring effort to produce new remedies, the enjoining of new methods of dietary, and with all this, the inevitable loss of any well-acquired principle of treatment as founded on long experience of oth-

*President's Address, delivered before the Minnesota State Medical Association, June 1, 1905.

ers, or of personal experience laboriously acquired for oneself. When will men learn that what is new is not always true? In expressing these sentiments, I decline to be regarded as an old Tory in medicine or a prescientific fossil." I would especially commend the careful reading of this entire article to the younger men in the profession.

That the treatment of disease by means of drugs occupies too large a place in our system of modern therapeutics, is perhaps true. Not that standard drugs, clearly indicated, are objectional, but the unfortunate lavish use of proprietary preparations, of which we have little or no knowledge, except as it is furnished us by the commercial representatives of the numberless manufacturing pharmacists and chemists scattered throughout the union, is objectionable.

Physicians, in their relation to proprietary preparations, may be grouped into two classes: First, a large class who prescribe anything and everything brought to their notice by the genial commercial representative, regardless of composition, merit, or the reputation of the manufacturing pharmacist exploiting it. Second, a class representing the bulk of the profession, composed of the thinking, well informed members of our profession, who do things, and who are largely responsible for progress in the various departments of medicine. They believe in progress, but preserve an unbiased attitude toward a drug or remedy until it has stood the test of scrutiny and clinical experience at the hands of competent observers and experienced clinicians. They must know the composition of the remedy and the reputation of the firm preparing it, and last, but not least, whether it has stood the searchlight of clinical sanction at the hands of experienced clinicians. We physicians smile at the credulity of the people which has given the patent medicine vendor his millions, while we allow ourselves to be deluded by the unscrupulous proprietary medicine vendor, under the guise of a chemical company, said company consisting often of a superannuated druggist aided and abetted by one or more shrewd business men. In my judgment, our attitude toward the manufactured product of even our best firms should be one of extreme caution and skepticism.

To summarize, the following are responsible, in my judgment, for the demoralized and unenviable condition of modern therapy:

First, insufficient and impractical instruction in our medical schools in this important and difficult branch.

Second, the unfortunate tendency in our medical schools, as well as in the profession, to devote all energy to the investigation, detection and prevention of disease, to the exclusion of rational therapy.

Third, the delusion of considering drugs the only agents for combating disease, thus seriously minimizing the beneficial effects of modern therapy.

Fourth, the willingness of a considerable proportion of the profession to prescribe anything and everything thrust upon the market, regardless of composition or merit.

Fifth, the worse than evil influence of the so-called therapeutic nihilists in our own ranks.

How can we remedy the defects and improve our therapy, and thereby be of greater service to our patients and the public, as well as aid in lifting the profession of medicine to that high and lofty plane it deserves? Evidently one of the first things to do is to insist that our medical colleges give to the all-important subject of therapeutics the time and care its importance demands; also that more time and attention be given to applied therapeutics by clinical instructors in order that students may become proficient in the practical application, not alone of drugs, but all essential agents of service in restoring health and prolonging life. In order that sufficient time be secured during the college course, I would suggest that the curriculum be carefully scrutinized, and, if found necessary, a portion of the time devoted to the study of the sphenoid bone, impractical chemistry, and at other waste points, be utilized in teaching practical therapeutics.

The term therapeutics should include all agents of service in combating disease,—hydrotherapy, mechano-therapy, heat, light, electricity, climate, mineral waters, etc. The growing importance of hydrotherapy as a therapeutic agent is apparent in the fact that many of the European universities now give special courses in hydrotherapy. Winternitz, the father of scientific hydrotherapy, founded at his own expense a hydro-therapeutic

clinic in Vienna. Rome and Florence both have model institutions, devoted to the physical methods of treatment.

Mechano-therapy, equally valuable as a therapeutic measure, has a wide range of usefulness, and is rapidly assuming importance as a method of combating disease. Its usefulness is attested by the fact that many of our colleges, including the University of Minnesota, now give special courses in mechano-therapy.

I need not detain you to point out the importance of climate, electricity, heat, light, rest, exercise, and medicated waters in combating disease, in order to make clear the fact that, useful as honest drugs are in the treatment of disease, they by no means constitute our only means of treatment.

The important work undertaken by the Council on Pharmacy and Chemistry of the American Medical Association will doubtless prove exceedingly helpful and beneficial to the entire profession, but more especially to the indifferent prescriber, ready and willing to prescribe anything and everything, regardless of merit. The Council on Pharmacy and Chemistry, composed of able and experienced pharmacists and chemists, proposes to examine into the composition and the status of the various medical preparations offered to physicians, which are not included in the United States Pharmacopeia or in other standard text-books. These will include the synthetic chemical compounds, as well as the so-called proprietaries and pharmaceutical specialties put out under trade-marked names. Preparations which conform to the standard established by the Council will be incorporated in "New and Non-official Remedies," a book to be published by the Journal of the American Medical Association. This distinguished body of impartial experts should receive the hearty co-operation of all honorable manufacturing pharmacists and chemists, and of the entire medical profession, in making this important work in the higest degree successful. Let us hope that this important work will be fearlessly pursued, in order that reliable results may follow.

It is the cherished hope of the profession that the forthcoming pharmacopeia may be, in at least one important respect, that of expurgation, a vast improvement over past revisions. It is a source of regret that the work of revising our pharmacopeia is not shared to a greater extent with able and experienced clinicians, the men of all men in a position to judge of the practical value of drugs. Until such time as the expurgation is completed, teachers and clinicians should exercise the courage of their convictions, and repudiate all useless drugs. One rule alone should guide us in the practical application of drugs,—the drug must be clearly indicated, and must be free from danger in the dose prescribed.

I know of no man in or out of our ranks so positively harmful and detrimental to the progress of medicine as the therapeutic nihilist. I have sympathy for the drug skeptic, but absolutely none for the medical man who affirms he has no faith in the use of drugs or any of the various means at our command for combating disease. It is the doubter and scoffer in the profession, without faith in his calling, who, more than any other force, belittles and degrades medicine, and in so doing furnishes the best possible argument for the birth and growth of quackery in the form of medical fads, also unconsciously assists these fads in securing legislative sanction. Time forbids farther discussion of this important subject, except to urge that this society, through its committee on scientific work, encourage the preparation and reading of carefully prepared papers on Materia Medica and Therapeutics.

With the new expurgated pharmacopeia, soon forthcoming, and the valuable aid of the Council on Pharmacy and Chemistry, aided by the growing feeling within the profession in favor of a more rational therapy, may we not confidently hope to see the weak link in medicine, therapeutics, so strengthened in the near future as to commend itself alike to the public and to the skeptic within the profession?

EDUCATION OF THE PUBLIC

One of the most important and difficult tasks this association has to perform is that of instructing the public in an effective manner in respect to the pressing problems embraced under the head of preventive medicine. Let us remember that the only cure for ignorance is education, and that it is as much our mission to prevent disease as it is to cure it, consequently the physician should consider it his duty to instruct

and advise his patrons in personal, home and public hygiene; by so doing he will aid in securing wise and helpful legislation in the interest of all the people. In no other way can the medical profession so strengthen itself in the estimation of the public and lawmakers as in its unselfish efforts to secure wise and just laws, looking to the prevention and control of disease.

I would suggest as a beginning in this direction that arrangements be made for a popular lecture on some pressing medical or sanitary topic, preferably some evening during the annual session, and in order that it may appeal to the public, that the services of some well-known man be secured for the occasion. I would farther suggest that the same course be pursued by the societies in affiliation with this society, and that at least one open meeting be held during the coming year, devoted to the discussion of some vital subject pertaining to preventive medicine or medical progress. Owing to its vital importance, as well as the need of united action throughout the state, in order to render the work effective, I would suggest that the problem of the control of tuberculosis be selected as the topic for discussion at the proposed open annual meeting.

The question is often raised as to why the individual, the public and the state take so little interest in the medical profession and medical progress. I fear it is largely because we as a profession fail to realize and seize our opportunities, apparently forgetful of the fact that we are living in an age of activity, pregnant with pressing medical, sanitary, economic and sociologic problems, demanding solution at our hands, aided by enlightened public opinion.

A STATE JOURNAL

Within the borders of this state we have a body of medical men second in energy, loyalty, aggressiveness and efficiency to that of no other state in the Union. If this be true, has not the time arrived when this association should seriously consider the advisability of having an official organ, edited and published entirely under its jurisdiction, which journal should be furnished to every member of this association at the lowest possible price consistent with the publication of a first-class journal? This journal should supplant our annual transactions, thereby relieving the association of an annual expense of about fifteen hundred dollars. Is not the time at hand when Minnesota should join the progressive states of Michigan, Pennsylvania, New Jersey California, Kentucky, Wisconsin, Nebraska, Kansas, Missouri and Mississippi, by providing its members with a strong, ably edited, strictly ethical journal one which will be an honor to the association, the profession and the state? The existence of two excellent journals within the state clearly indicates that we need not look beyond our membership for ability to promptly furnish us a state publication of such excellence that its circulation need not long be confined to the narrow borders of our own commonwealth, but, intelligently fed by the brainy profession of this state, it should soon have a circulation, especially in the West, sufficient to early stamp it as one of the few strong journals actually required to supply the needs of the profession.

Concentration should be the watchword of the profession, hence fewer journals and stronger journals; fewer medical colleges and stronger medical colleges, should be the object and aim of the profession.

The attitude of the reorganized profession should be clearly one of disapproval of farther excess of journalism, or multiplication of medical schools. I would, therefore, recommend that the Council, after advising with the editors and publishers of the journals now published in this state, carefully consider the advisability of a state journal, and, if deemed advisable, take immediate preliminary steps looking toward the establishment of the same.

MEDICAL EDUCATION

Minnesota has been a potent factor in the advancement of medical education, more especially during the past two decades. The profession of Minnesota has just reason to feel proud of the results achieved by the Minnesota Practice Act of 1887. With the valuable addition of a reciprocity clause and added facilities for enforcing the penalty clause of the present law, we shall soon have an ideal law.

Both university schools within our state now offer their graduates who have completed two years of selected academic work and four years in medicine, the double degree of B. S. and M.

D., a concession every university medical school should insist upon, in the interest of the student body and the profession. The two years thus saved to the student, one of which should be spent in hospital or post-graduate work, would mean much to the earnest struggling student.

However well pleased we may be with local conditions within our own state, all must feel dissatisfied at the lack of uniform entrance requirements, and bitter disappointment at the lack of uniform laws regulating and prescribing the necessary qualifications to enter upon the practice of medicine in the various states.

The great importance of the subject, medical education, including entrance requirements, graduate requirements, and practice qualifications, to the student body, the profession and the public, is such as to demand that the American Medical Association, the only organized body qualified to speak without prejudice on this weighty subject, should, without farther delay, take active steps to at least bring about more uniform entrance requirements, and greater uniformity in the various states as to qualifications to enter upon the practice of medicine.

Medical education, viewed from a national point of view, is chaotic, if not ridiculous, as no two states have the same legal requirements. I would, therefore, recommend that our delegates be instructed to urge the national organization to take immediate steps to bring about more uniform entrance requirements, and greater uniformity in the requirements to enter upon the practice of medicine in the various states.

MEDICAL LEGISLATION

I shall not detain you with a lengthy review of the medical legislation enacted by the last legislature; that subject will be presented by the chairman of the Committee on Public Policy and Legislation. The last legislature distinguished itself by passing a bill known as the Chiropractic Bill, which provided for the appointment of a board of examiners to pass upon the qualifications of the followers of a new method of treating disease, labelled "Chiropractic," whatever that may mean. The bill was so ridiculously absurd, and so at variance with sound public policy as to promptly call forth a veto from Governor Johnson. In his clear, concise and convincing veto message the executive called especial attention to the fact of the absence of a nucleus or semblance of a school, and the farther fact of its being an untried experiment; he also pointed out the astounding fact that, among the applicants for positions on this proposed board were insurance agents and men in other walks in life with absolutely no medical training whatever. The veto of this absurd measure was based on the broad view of sound public policy,—the protection of the people. All medical legislation should be based on the broad and just theory of protection to the public, and not the narrow view of protecting the profession; medicine needs no protection; it asks none, and, moreover, should receive none at the hands of legislators. It is in no sense a trade union, consequently in our efforts to secure needed legislation, we should studiously avoid all semblance of trades-unionism.

The reorganized profession, state and national, should carefully consider and scrutinize all proposed medical legislation, and only after the most careful deliberation, confirmed by competent legal advice, should we as a profession undertake to press a measure. Aside from wise and judicious health laws, the profession should make as few demands as possible on legislators, but forcibly press the few measures demanded, until enacted into useful laws. Personally, I do not believe that every ill demands, or can be remedied by, legislative enactment. The enactment of the Medical Reciprocity Act, aided by the changes in the Medical Practice Act, contained in the Code, will give us an excellent working law and greatly assist the board in its work.

In closing, I desire, in the name of the association, to thank his excellency, Governor Johnson, for his courageous course, in the interest of sound public policy, in placing his seal of disapproval upon that travesty of legislation known as the Chiropractic Act. I desire, also, in the name of the association, to thank the author of the Medical Reciprocity Act, also the other medical members of the last legislature for their earnest and successful efforts in securing valuable legislation.

DOCTOR JAMES HENRY DUNN

Since our last annual meeting there passed from this life to a higher, from earth's active

minority to the silent majority, a distinguished member of this association, one who, though young in years, yet, measured by the true standard of life, deeds, was ripe for the Great Reaper. Dr. James Henry Dunn, student, physician and gentleman, an active and honored member of this association, one of its honored presidents, is now numbered with the dead.

As a diagnostician he was without a peer in the Northwest, as an operator he had few superiors, as a teacher no equal, as a forcible writer, no rival. He was your friend, my friend, unassuming, honest, gentle and loyal.

THE ADENOID OPERATION ON A CHILD, AND SOME PRACTICAL OBSERVATIONS IN REGARD TO IT

By Robt. A. Campbell, M. D.

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MINNEAPOLIS

The patient, a little girl five years of age, is given three-quarters of a grain of calomel on retiring the second night before the operation.

The time for the operation is set at one o'clock. Her breakfast that morning is to consist of a soft-boiled egg, a little milk, and a piece of toast. She is brought to the hospital at half past twelve, and if there has been found no contra-indication to the use of ether, she is at once given a hypodermic injection of 1-450 of a grain of atropine sulphate in solution.

At the operating hour she is disrobed, and anesthetized with ether. When ready she is turned upon her side on the operating-table with her face turned slightly downward for irrigation of the nasal cavities and pharynx with warm normal salt solution. She is then placed upon her back with her head hanging downward over the end of the table partially supported by the hands of a nurse. A Furgeson mouth-gag is inserted, and the nasopharynx is carefully explored with the finger and all the hypertrophies accurately located. The forceps, Brandagee's or French's, the choice depending upon the size of the nasopharynx, are used first. The closed blades are passed behind the palate to the vault, brought forward to the septum, opened, the handles raised to the front teeth, the blades pressed gently upward and backward (or more correctly, toward the vault and posterior pharyngeal wall) and made to grasp the posterior middle portion of the adenoid mass, the blades are closed, the instrument is slightly rotated, and the enclosed portion brought out. The blades are re-introduced to the same position as before, turned toward one side, and made to grasp that portion of the mass that was adjacent to the first removed. The next step is a repetition of the last, and has for its object the removal of that portion of the growth that was adjacent to the first removed on the opposite side.

We now know that the posterior half, more or less, of the vault is clear, as are also the upper halves of the posterior and posterolateral walls. The Gottstein curette (a medium sized or small one is best) is used to remove the remaining portions of the growth on the lower halves of the posterior and posterolateral walls.

There remain portions of the growth in the fossæ of Rosenmüller and the anterior half of the vault. These are the neglected places in the ordinary operation. The hardened nails of the index fingers will be made to gently curette the fossæ of Rosenmüller, and while the left finger is still in the nasopharynx, the long, straight curette is passed through the nasal cavities, each in turn, and under the guidance of the finger made to thoroughly curette the anterior half of the vault. In case nasal obstructions prevent the use of the straight curette a Coffin's curved curette may be made to clear the anterior half of the vault.

Upon completion of the operation the child is immediately turned over, face downward. Upon cessation of the hemorrhage the nose and

throat are again irrigated with normal salt solution (unless the bleeding has been longer continued than usual when it is omitted), and the child sent to bed. It is usual for my patients to be taken home, those who live in the city, between four and six o'clock the same day, and they are requested to come to the office on the second day for an inspection of the cavity.

The operation detailed above won for itself the following praise from one of the city's most experienced surgeons two years ago at one of the hospitals. He said: "That is the most complete operation for removal of adenoids that I have seen performed in this part of the country."

The adenoid operation is made very frequently, and its beneficence falls almost wholly upon the little ones at the very beginning of life, and therefore it demands careful study and special pains should be taken for the perfection of its operative technique.

Many of these cases require nasal work. There may be present intumescent or hypertrophic rhinitis, deflected septums, etc., which maintain a congestion of the tissues and invite a recurrence of the adenoids.

It is necessarily a difficult operation. A Mule's operation, for instance, which consists of emptying the scleral sac, and sewing in a glass ball, all in sight, is in comparison simplicity itself. A complete operation on children usually cannot be done with an adenotome nor with a Gottstein curette alone, and it is much to be desired in the interest of the children that the jiggling of the latter instrument up and down behind the palate as a substitute for the operation will become obsolete coincidently with its counterpart for adults, that inefficient Ogsden-Lac operation for chronic suppuration of the frontal sinus.

The operation should not be made upon hemophiliacs. Hemorrhage during and after the operation is brisk for a few seconds, but if the anesthesia during the minute or two required for the actual operative work is moderate and only sufficient to abolish pain letting the laryngeal reflex remain intact and the head is low the danger of inspiration of blood and tissue is minimized. If blood does fill the larynx and clot it may be removed by a maneuver best described as "milking it out" with the thumb and fingers.

It is but being prepared for emergencies to have on hand a knife and tracheotomy tube, a solution of the suprarenal gland or its extracts, and postnasal cotten tampons.

Patients over ten or twelve years of age are usually operated upon without a general anesthetic. Phlegmatic children, and those whom we can control readily, and those who are so accustomed to an amount of abuse that this punishment is not inordinate, may possibly also be operated upon without a general anesthetic, but the large majority of children under ten years of age need one, and the question arises, which one shall be used, chloroform, nitrous oxide, or ether. Where there is no contra-indication to ether the fact that chloroform is the least safe of the three should put it out of consideration. The modern way of giving nitrous oxide and oxygen makes the same available, but the cumbersomeness of the apparatus required and the questionable advantages over ether have deterred its progress towards general adoption. Children take ether almost as easily as chloroform. There is usually no stage of excitement nor nausea and vomiting afterwards, and the comparative safety of ether is well acknowledged. The atropine previously administered prevents oversecretion from the glands of the throat and bronchi, and stimulates the respiratory center.

The operation as detailed in this article is very short, taking scarcely two minutes, and if there is no tonsillar complication it could easily be done under primary anesthesia.

Confirmation of the diagnosis is easily made. The best test for those not adept in the use of the throat mirror, is feeling with the index finger inserted behind and above the palate. The expert in rhinoscopy can obtain a view of the nasopharynx in over 50 per cent of cases of this trouble. The facial expression and general appearance usually ascribed to mouth-breathing form insufficient evidence for making a positive diagnosis. In a case reported in THE NORTHWESTERN LANCET, Feb. 1, 1905, a girl twelve years of age possessed a facial arrangement of bones, muscles, and subcutaneous tissue that indicated adenoids more pronouncedly than any

other case I have seen, and yet there were no adenoids and no nasal obstruction. Undoubtedly there had been the former, but they had atrophied; yet this child was later subjected to an operation under anesthesia for adenoids!

Having seen the patient for the first time and found an enlargement of the pharyngeal tonsil, it becomes our duty to find out whether it is due to an acute adenitis or is an hypertrophy. The former is accompanied by fever, headache, general malaise,—in fact the common symptoms accompanying an attack of tonsillitis, except the pain upon swallowing, which is absent. If none of these symptoms are present and the person accompanying the child tells us that she has been snoring at night for the past six weeks or more, that she is restless at night, tossing about her bed, perhaps having "night terrors," and that she breathes through her mouth, we know that the condition is chronic, and demands operation.

An hypertrophied pharyngeal tonsil being subject to acute inflammation, it may be that we see the patient first in that condition. Then these questions present themselves: How much danger do these acute attacks bring the patient? How much damage is the hypertrophy alone doing, and, if the latter is infinitesimal, can we prevent the former by treatment short of an operation? It is true that we can prevent nearly all, if not all, these attacks of acute inflammation of the pharyngeal tonsil in children in a large proportion of cases: first, by improving their surroundings and personal hygiene, air, food, clothing, bathing, etc.; secondly, by general systemic treatment, as with cod-liver oil and syrup of iodide of iron to increase the resisting power of the throat to infections (colds); and, third, but in many cases most important of all, by putting the nose in good condition. It is not too much to say that a bead or two of chromic acid properly handled will in some cases do the whole work. How? By removing an intumescent rhinitis or a soft turbinal hypertrophy, which releases retained secretions within the meatuses, thereby removing a chronic, purulent rhinitis (simply a case of drainage), which, in turn, relieves congestion of the nasal and postnasal membranes, and allows them to resume normal functions under normal conditions. One of their important functions and pertinent to our subject is the destruction of pathogenic bacteria that invade the nose.

But the majority of children subject to acute attacks of adenitis and those suffering from hypertrophied pharyngeal tonsils demand an operation, because of well known developmental reasons.

The view of adenoids in adults is taken from a different standpoint, namely, that of postnasal catarrh, and the operative treatment is much more flexible, so that a consideration of it may well occupy a different place.

APPENDICITIS IN TRAINED NURSES

J. N. Hall, Denver, Col. (Journal A. M. A.), remarks on the frequent occurrence of appendicitis in the trained nurses at the Denver City and County Hospital where he is a member of the medical staff. Excluding mild non-operative cases, he has records of 18 patients operated on among the pupils of five Denver training schools, the total number of nurses during the time under consideration being 296. Thus 6.08 per cent were operated on, while a considerable additional number had mild attacks of the disease. Thirteen were operated on at the beginning of an attack and five were interval operations; the average age of the patients was 23½ years, the average duration of training at the time of operation was about 14 months. Every patient recovered with a practically perfect result. While he can only theorize as to the causes of this frequency, he suggests the unaccustomed requirements in many cases of standing and walking, constipation and trauma from action of the psoas muscle in working in the stooping position so often necessitated in the nurse's occupation, as worthy of consideration. The greatest single factor, however, he thinks is, the prompt recognition of the condition, leading to an early and successful operation. If all cases could be managed as well he believes the mortality of appendicitis could be practically wiped out.

ACUTE EPIDEMIC DYSENTERY

Lawrence B. Pilsbury, Lincoln, Neb (Journal A. M. A., July 15, 1905), reviews briefly the history of the study of the dysentery bacillus. He calls attention to the cultural characteristics of the bacillus as described by Shiga, and reviews the bacteriologic reports of various investigators. He gives the results of investigations made with the Shiga bacillus and with the bacillus dysenteriæ of Flexner. The article includes a summary of 237 clinical cases.

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EPIDEMIC DISEASES

The yearly fear of an epidemic is upon us—not in the north, perhaps, but in various coast cities in the south and east.

The advent of yellow fever at New Orleans, and the warnings of Dr. Shautemesse, the Director General of the Sanitary Service in Paris, that cholera may become epidemic in Europe, has driven southern people northward and travellers on the Continent back to England and America. The fear of an epidemic is frequently groundless, but it emphasizes the necessity of constant watchfulness on the part of sanitary officials in every city, town and village. It also becomes the duty of every physician to take every precaution to rigidly enforce the details in the prevention of spreading of disease.

Physicians and the public become careless during the quiet periods of the year when no epidemics exist. The present year is an illustration of the prevalence of endemic and epidemic disturbances—New Orleans was unaware of the existence of yellow fever until it bounded beyond the scope of the authorities. Unfortunately the city is builded upon a sponge bog, and all entombments are above ground.

While it is generally agreed that the mosquito, technically named the stegomyia fasciata, is the common carrier of Samarelli's bacillus, it is possible that other insects, such as flies, etc., may assist in the spread of the contagion. The possibility of the bacillus living in water or surviving in old interments is a question for discussion. The death list of 5,000 in New Orleans and Memphis in the epidemic of 1878 has not been forgotten, and, in all probability, both cities understand methods of retarding infection, and are prepared to stamp out the few hundred cases which have already occurred.

The infected mosquito does not become dangerous until twelve days after biting the yellow-fever patient, but his contagion-carrying power may last for fifty days or more. Recent attempts to clear low lands from mosquitos have been successful, and where epidemics are in any way due to insect propagation vigorous means must be employed.

Cholera usually travels by land, and may be carried great distances by the unclean. Fortunately stringent sanitary rules will soon clear a cholera spot. These epidemics serve to renew the vigilance of those who know the individual and commercial disasters that accompany epidemics of any type.

NATIONAL DEPARTMENT OF HEALTH

Dr. Montgomery of Chicago introduced a motion in the House of Delegates at the Portland meeting of the A. M. A. for the establishment of a national department of health with a physician or representative as a member of the cabinet. The movement of course was not a political one, but one to aid in the education of the public and to direct the issuance of pamphlets instructing local health departments and the public at large to prepare for and avoid the perils of yellow fever, tuberculosis, and other infectious and contagious diseases.

Dr. H. M. Bracken, the secretary of the Minnesota State Board of Health, believes the resolution, and particularly its adoption, as unnecessary.

The United States Public Health and Marine Hospital Service has full jurisdiction now, and is in reality a national board of health with Surgeon-General Wyman at its head.

After hearing the praise given by President Roosevelt to a body of physicians it is perhaps not unwise to keep national sanitary topics before the politicians. The difficulties with sani-

tary problems before the Panama Canal Commission, and the outbreak of yellow fever in the south, suggests that the expert on hygiene and sanitary science, and the officers of the boards of health be given more authority and assistance in the suppression of disease. The legal associate and the county official is rather lax in enforcing laws which may cause the voter temporary inconvenience. The department of health should have absolute jurisdiction where an epidemic threatens. If the American Medical Association advises, it is time for the politician to awaken to the safety of the people.

The resolution of Dr. Montgomery is good, whether a cabinet official is created or not.

MULTIPLE NEURITIS

At the meeting of the American Medical Association in St. Paul the editor of THE LANCET reported twelve cases of multiple neuritis occurring in one month. All of the cases originated in Minneapolis. One case was seen in consultation one hundred miles west of the city, but the patient has been in Minneapolis, and was beginning to demonstrate his symptoms within twenty-four hours after reaching home. Two cases were of the fulminating type, and both died within sixty hours after the onset of the disease. Nine out of the twelve cases recovered in from six weeks to eighteen months according to the severity of the symptoms.

This year, within two months, there have been a number of cases unofficially reported. The majority of them originated in the country among the workmen on the Minnetonka extension line of the Minneapolis street railway. One case showed an involvement of all extremities practically, but was not wholly disabled. The other three or four cases were incomplete. The rest of the cases were in all probability multiple forms, but slight in degree. The cause of this epidemic is not known. The possibility of a malarial rheumatic or autoinfectious origin is the most likely cause.

A number of mild cases occurred among school teachers, one, however, was typical and severe, but was evidently nephritic; the others were due to various causes.

Multiple neuritis is not an uncommon disease, particularly that form in which the motor symptoms predominate, and sensory symptoms are either mild or absent. These cases are usually caused by infections. This form of neuritis, when it involves the lower extremities, is frequently mistaken for locomotor ataxia or other spinal cord diseases. The probability of a neuritis due to lead, arsenic, diphtheria, and influenza, must always be carefully considered. The prognosis is not gloomy as a rule unless due to metallic poisons, and even these cases may make a practical recovery after a long time.

The treatment should be directed to the elimination of the infection, rest, the relief of a strained position of the limbs, and, later, hydrotherapy and massage.

FEES FOR EXPERTS

In the case of Clara Sager against the Jacob Schmidt Brewing Company in St. Paul, Judge Kelly filed an order allowing a witness fee of $25.00 each to two physicians who testified in the trial of the case.

Objection to paying these fees was made by the defendant on the ground that it had already paid large fees to physicians called for the defense.

Judge Kelly ruled that in an action for personal injuries the payment of large fees for expert testimony on behalf of the losing side does not exclude large fees for the expert witnesses for the opposing party, but, rather, is proof of the value of such testimony.

In spite of the fact that many judges look upon the expert medical witness as a necessary evil there is a glimmer of hope that in the future he may be considered by the courts. His time is of value, and, if he is an honest, conscientious man, his opinion should not be underestimated.

There is reason to believe that there are experts who realize the importance of their duty as experts, are prepared to give an opinion based upon observation and study for the instruction of the court and jury. It will be a long time, however, before a safe harmony can be obtained that will satisfy the contesting parties and the court. When lawyers will agree to the employment of medical experts independently of in-

dividual preference, and will accept the opinion of a medical jury, we may hope for some relief from bickerings and criticism. Until such a time the medical man will give his opinion more or less biased.

So long as lawyers suppress important facts and questions that would clear the medical atmosphere of the courts, the doctors will testify as they do now.

BOOK NOTICES

Welch & Schamberg on Acute Contagious Diseases. A Treatise on Acute Contagious Diseases by William M. Welch, M. D., Consulting Physician to the Municipal Hospital for Contagious and Infectious Diseases; Diagnostician to the Bureau of Health, etc., Philadelphia, and Jay F. Schamberg, A. B., M. D., Professor of Dermatology and of Infectious Eruptive Diseases, Philadelphia Polyclinic; Consulting Physician to the Municipal Hospital for Contagious and Infectious Diseases, and Assistant Diagnostician to the Philadelphia Bureau of Health, etc. In one very handsome octavo volume of 781 pages, illustrated with 109 engravings and 61 full-page plates. Cloth $5.00 net. Philadelphia: Lea Brothers & Co.

Many a physician never sees a case of smallpox, and sees only a few cases of scarlet fever and diphtheria; but every physician must be thoroughly familiar with these diseases to be prepared to handle them. In contrast to this limited experience, the authors of this large volume have studied ten thousand cases of each of these diseases, and a very large number of cases of vaccinia, measles, chicken pox, typhus fever, etc., of which they also treat.

Authors who possess minds trained to observation and who have such opportunities as are named above, can bring, in their works, something to the profession that is worth reading.

Diagnosis, symptoms, treatment, hygienic measures and disinfection are covered in detail; and the publishers have done all that a free expenditure of money and large publishing experience could accomplish in the way of illustration.

The work is indeed a valuable one.

Modern Surgery: General and Operative. Fourth Edition. By John Chalmers DaCosta, M. D., Professor of the Principles of Surgery and of Clinical Surgery in the Jefferson Medical College, Philadelphia. Handsome octavo volume of 1,099 pages, with over 700 illustrations, some in colors. Cloth $5.00 net. Philadelphia: W. B. Saunders & Co.

This work presents in a concise form the fundamental principles and the accepted methods of modern surgery. Obsolete and unessential methods have been excluded in favor of the living and the essential. The author's extensive experience as a teacher is evident throughout the entire work, the statements being clear and to the point.

The progress of surgery in every department is one of the most notable phenomena of the present day. So many improvements, discoveries, and observations have been made since the appearance of the last edition of this work that the author has found it necessary to rewrite it entirely. In this fourth edition the book shows evidences of a thorough and careful revision, and there has been added much new matter. There have also been added over two hundred excellent and practical illustrations, greatly increasing the value of the work. Because of the great amount of new matter it has been deemed advisable in this present edition to adopt a larger type page. This is a great improvement, rendering, as it does, the work less cumbersome. The book will be found to express the latest advances in the art and science of surgery.

Stimson on Fractures and Dislocations. A Treatise on Fractures and Dislocations. For Students and Practitioners. By Lewis A. Stimson, B. A., M. D., LL. D., Professor of Surgery in Cornell University Medical College, New York; Surgeon to the New York and Hudson Street Hospitals, etc. New (4th) edition, thoroughly revised. Octavo, 844 pages, 331 engravings and 46 full-page plates. Cloth $5.00. Philadelphia: Lea Brothers & Co.

Dr. Stimson's work is authoritative and standard. In previous editions of this work we found not a little that was entirely new, and in this edition we find a good deal that is new, especially in the manner in which the author treats his subject.

Dr. Stimson's high standing adds interest to

his statements regarding new forms of treatment; and his sanction of any method of treatment or any form of diagnosis remove it from the field of doubt. This is particularly true in reference to the *x*-ray work and in some of the rarer forms of injury about which writers are so often in the dark. The work is a very valuable one, and will be received both by surgeons and general practitioners as a real contribution to medical literature.

MATERNITAS. A Book Concerning the Care of the Prospective Mother and Her Child. By Charles E. Paddock, M. D., Assistant Clinical Professor of Obstetrics, Rush Medical College. Price $1.25. Chicago: Cloyd J. Head & Co.

This is an interesting and valuable little volume for mothers, and the physician who puts it into the hands of young mothers especially will confer a favor upon them that will not soon be forgotten. The book cannot be commended in too high terms.

NEWS ITEMS

Dr. G. W. Frasier, a state university graduate, has located at Parker's Prairie.

Dr. F. J. White has formed a partnership with Dr. E. A. Crokat, of Minot, N. D.

Drs. Gutch and Powell, of Albia, Iowa, are heading a movement for a hospital for that city.

Dr. A. L. McDonald, a recent graduate of Johns Hopkins, has located at Grand Forks, N. D.

Dr. C. A. Anderson, who graduated from the State University in June, has located at Lanesboro.

Dr. G. M. Fortier, of Little Falls, has been in a hospital at St. Cloud for an operation on his hand.

Dr. G. C. Hoff has charge of the practice of Dr. K. Gryttenholm, of Zumbrota, during the latter's absence.

Dr. Thomas E. Mayhew, of Grand Marais, a pioneer of northern Minnesota, died last month at the age of 70.

Dr. Frank C. Todd, of Minneapolis, has gone to Europe for special study. He will be absent two or three months.

Dr. N. H. Schjelderup, of Granite Falls, will come to Minneapolis next month to become assistant to Dr. Dunsmoor.

Dr. C. M. McLeod, of Hudson, Wis., has purchased an interest in a private hospital in Chicago, and has moved to the latter city.

Dr. W. F. Coon, State University, '03, of Elysian, and Miss Mae R. Prescott, of Downer's Grove, Ill., were married on August 2d.

Dr. A. J. Heimark, of Cyrus, was married last month to Miss Florence Powell, of Chicago, and is now doing post-graduate work in Chicago.

The contracts for the construction of the new hospital building at Warren have been let, and exceed $18,000. The third story will not be completed this year.

Two physicians in northern Minnesota have been convicted of sending a smallpox patient to Duluth for the purpose of getting rid of him. The offense is punishable by fine.

Dr. J. C. R. Charest, of Fargo, N. D., has moved to Hillsboro, in the same state, and will take up the practice of Dr. Geo. Bates, who returns to the East to take a lucrative practice.

Dr. F. H. Kucera, a recent graduate of Creighton Medical College, has become associated in practice with Dr. J. Landenberger, of New Prague, one of the oldest practitioners in that part of the state.

Dr. C. E. Gates, State University, 1904, has moved from Zumbrota to Viola. A local paper says nine physicians have begun practice in Zumbrota within a few years, and all have left. Home talent is not appreciated.

Dr. O. W. Archibald, of St. Paul, died last month. Dr. Archibald was a graduate of the Col. of P. & S., of Keokuk, Iowa, and the Missouri Medical College, and had a varied experience in the West. He was surgeon to Custer's famous regiment. He was a very warm-hearted man, and left a large circle of friends.

Miss Catherine A. Mullen, of New York city, and Miss R. N. Maloney, of Detroit, Minn., two nurses who have had large experience in the care of tubercular patients, will start a hospital for tubercular patients at Bozeman, Montana. Tent life, rest, nourishing food and a favorable climate will be depended upon to effect cures.

PRACTICE FOR SALE

In a railroad town of Minnesota, containing 2,000 inhabitants. Practice has been established ten years and pays over $3,000. Will sell practice and office furniture, and will sell or rent house furnished or unfurnished. Address S. care of NORTHWESTERN LANCET.

ROSTER OF THE MINNESOTA STATE MEDICAL ASSOCIATION

FIRST DISTRICT

Councilor, E. A. Hensel.....Alexandria

Clay-Becker County Medical Society

Barton, E. R., President.....Frazee
Awty, W. J., Secretary.....Moorhead
Aborn, Wm. H.....Hawley
Alexander, F. H.....Barnesville
Carman, J. B.....Detroit
Darrow, Daniel C.....Moorhead
Dawson, C. A.....Glyndon
Egge, T. S.....Moorhead
Germain, R. T.....Barnesville
Heimark, O. E.....Hawley
Hoit, Edward E.....Detroit
Humphrey, E. H.....Moornead
Hyde, Leon W.....Moorhead
Jones, S. S.....Frazee
Kaess, Andrew J.....Moorhead
Weeks, L. C.....Detroit

Park Region District and County Medical Society

Wilkins, Otter Tail, Douglas, and Grant Counties

Regular meetings, second Wednesday in January, April, July and October. Annual meeting in October.

Sherping, O. H., President.....Fergus Falls
Haugan, O. M., Secretary.....Fergus Falls
Armstrong, L. W.....Breckenridge
Baker, A. C.....Fergus Falls
Brabec, F. J.....Perham
Berthold, J. L.....Perham
Boyd, H. J.....Alexandria
Cowing, Phil. G.....Ashby
Davis, L. A.....Dalton
Duncan, W. T.....Fergus Falls
Freeborn, J. A.....Fergus Falls
Guldseth, Gustave.....Battle Lake
Heimark, C. B.....Wendell
Hensel, E. A.....Alexandria
Jelstrup, Christian Vining
Lee, J. K.....Minneapolis
Kittleson, Thos. M....Fergus Falls
Livingstone, J. L....Pelican Rapids
Lvng, John A.....Fergus Falls
McLean, T. N.....Fergus Falls
Mathieson, G. B.....Evansville
Meckstroth, C. W.....Brandon
Muus, Peter H.....Kensington
Quitmeyer, O. C....Parkers Prairie
Rae, D. F.....Fergus Falls
Regner, J. A.....Alexandria
Seashore, D. E.....Battle Lake
Serkland, J. C.....Rothsay
Smith, L. G.....Foxhome
Truax, W. E.....Breckenridge
Vigen, J. G.....Fergus Falls
Vinje, Syver Henning

Red River Valley Medical Society

Polk, Marshall, Kittson, Roseau, and Norman Counties

Denniston, C. H., President...Crookston
Bratrud, Theodore, Secretary..Warren
Baker, A. C.....Stephen
Boeckman, Michael Thief River Falls
Bertelson, O. L.....Crookston
Blomburgh, A. F.....St. Hilaire
Chapin, J. S.....Euclid
Cummings, J. C.....St. Hilaire
Dampier, C. E.....Crookston
Danielson, K. A.....Twin Valley
Dunlop, A. H.....Crookston
Farley, F. X.....Crookston
Gambell, S. H....Thief River Falls
Gilmore, Roland.....Bemidji
Golberg, M. L.....Twin Valley
Gronvold, F. O.....Gary
Hanson, George C.....Fertile
Hanson, M.....Hendrum
Holte, H.....Crookston
Kjelland, J. S.....Crookston
Koch, John C....Thief River Falls
Lemieaux, Israel..Red Lake Falls
Lockwood, M. M.....Hallock
Lyman, F. V.....Beltrami
McKinnon, M.....Fosston
Melby, O. F.....Warren
Mitchell, F.....Euclid
Morley, G. A.....Crookston
Nelson, A.....Fertile
Neraal, P. O.....McIntosh
Ohnstad, J.....McIntosh
Olson, O. H.....Erskine
Risjord, J. W.....Fertile
Skaleen, Arthur W.....Hallock
Slippern, H.....Fosston
Smith, H. W.....Crookston
Stuhr, H. C.....Argyle
Vistaunet, P. L...Thief River Falls
Wattam, G. S.....Warren
Watson, N. M.....Red Lake Falls
Wilkinson, John Clinton.....Red Lake Falls

West Central Minnesota Medical Society

Pope, Stevens, Traverse, and Big Stone Counties

Christenson, C. R., President..Starbuck
Bolsta, Charles, Secretary.....Ortonville
Caine, C. E.....Morris
Eberlin, E. A.....Glenwood
Fjelstad, C. A.....Glenwood
Fleming, A. S.....Wheaton
Heimark, J. H.....Cyrus
Hulburd, H. L.....Morris
Karn, J.....Ortonville
Leuty, Amos Morris
MacKenzie, L. F.....Villard
MacMurphy, Geo.....Ortonville
Nuckolls, G. W.....Tintha
Oliver, C. I.....Graceville
Ransom, M. L.....Hancock
Wier, J. D.....Beardsley

SECOND DISTRICT

Councilor, Walter Courtney.....Brainerd

Upper Mississippi Medical Society

Aitkin, Beltrami, Cass, Crow Wing, Hubbard, Morrison, Todd, and Wadena Counties

Regular meetings, second Tuesday in January, April, July and October. Annual meeting in January.

Millspaugh, J. G., President..Little Falls
Coulter, Charles F., Secretary.....Wadena
Allen, Frank H.....Staples
Avery, J. F.....Aitkin
Babcock, L. W.....Wadena
Batcheller, Oliver T.....Brainerd
Beise, R. A.....Brainerd
Belsheim, A. G.....Aitkin
Cameron, William G.....Staples
Camp, James L.....Brainerd
Chance, Norman W....Little Falls
Christie, George R....Long Prairie
Course, Chas.....Verndale
Courtney, Walter Brainerd
Cutler, Chas. F.....Park Rapids
Desmond, M. A.....Eagle Bend
Fortier, Geo. M. A.....Little Falls
George, James W.....Aitkin
Gilmore, R. T.....Bemidji

Groves, A. F.....Brainerd
Hemstead, Werner Brainerd
Kenyon, Paul C.....Wadena
Knickerbocker, Frank H....Staples
Lowthane, G. H.....Hewitt
McCullagh, George Motley
McKinnon, J. J.....Wadena
Miller, W. A.....New York Mills
Morrison, William R.....Bemidji
Mowers, S. W.....Brainerd
Nicholson, Joseph Brainerd
Parrott, W. B.....Long Prairie
Roberts, L. M.....Little Falls
Rodwell, T. F.....Cass Lake
Seguin, Edwin Buckman
Stone, W. T.....Park Rapids
Thabes, J. A.....Brainerd
Trace, O. C.....Little Falls
Van Valkenberg, B. F.....
.....Long Prairie
Whyte, J. J.....Bertha
Wilcox, F. L.....Walker

THIRD DISTRICT

COUNCILOR, W. S. FULLERTON.....St. Paul

Ramsey County Medical Society

Regular meetings last Monday of each month, except July and August.
Annual meeting in January.

Dunning, A. W., President.....
.....St. Paul
Geer, E. F., Secretary.....
.....St. Paul
Abbott, E. J.....St. Paul
Allen, Mason.....St. Paul
Ancker, A. B.....St. Paul
Appleby, E. V.....St. Paul
Archibald, O. W.....St. Paul
Armstrong, J. M.....St. Paul
Artz, C. P.....St. Paul
Bacon, Knox St. Paul
Bacon, L. C.....St. Paul
Baker, J. F.....St. Paul
Ball, C. R.....St. Paul
Barsness, Nellie.....St. Paul
Benepe, L. M.....St. Paul
Bettingen, J. W.....St. Paul
Binder, Geo. A.....St. Paul
Boeckmann, E.....St. Paul
Bole, R. S.....St. Paul
Brimhall, J. B.....St. Paul
Brooks, D. F.....St. Paul
Brown, E. I.....St. Paul
Brown, Le Roy.....St. Paul
Buckley, E. W.....St. Paul
Cameron, J. A.....St. Paul
Cavanaugh, J. O.....St. Paul
Chamberlin, J. W.....St. Paul
Christison, J. T.....St. Paul
Clark, C. L.....White Bear
Colvin, A. R.....St. Paul
Cook, Paul B.....St. Paul
Coon, Geo. M.....St. Paul
Cuff, Wm. S.....St. Paul
Davis, H. W.....St. Paul
Davis, William.....St. Paul
Dennis, W. A.....St. Paul
Denny, C. F.....St. Paul
Earl, Robert O.....St. Paul
Eisengraeber, G. A.....St. Paul
Eshelby, E. C.....St. Paul
Ferguson, J. C.....St. Paul
Flagg, S. D.....St. Paul
Foster, Burnside St. Paul
Fullerton, W. S.....St. Paul
Fulton, J. F.....St. Paul
Gilfillan, J. S.....St. Paul
Gillette, A. J.....St. Paul
Goodrich, Judd St. Paul
Gravelle, J. M. A.....St. Paul
Greene, C. L.....St. Paul
Hall, A. R.....St. Paul
Hall, Charlotte St. Paul
Hawkins, V. J.....St. Paul
Heath, A. C.....St. Paul
Henderson, A.....St. Paul
Hesselgrave, S. S.....St. Paul
Hoff, Peder A.....St. Paul
Hunt, H. E.....St. Paul
Johnson, Asa St. Paul
Johnson, H. C.....St. Paul
Jones, Talbot St. Paul
Kahala, Arthur St. Paul
Keam, A. P.....St. Paul
Kelley, W. D.....St. Paul
Kistler, A. S.....St. Paul
Lando, D. H.....St. Paul
Lankester, Howard St. Paul
Leavitt, F. E.....St. Paul
Lee, C. E.....St. Paul
Lewis, J. D.....St. Paul
Lewis, W. W.....St. Paul
Lundholm, E. M.....St. Paul
McCloud, C. N.....St. Paul
McCord, E. W.....St. Paul
McDavitt, Thos.....St. Paul
McLaren, Jeanette St. Paul
Macdonald, Angus St. Paul
MacNamara, J. G.....St. Paul
Markoe, J. C.....St. Paul
Meade, C. J.....St. Paul
Miller, A. W.....St. Paul
Nelson, J. C.....St. Paul
Nelson, L. A.....St. Paul
Nippert, H. T.....St. Paul
Norton, H. G.....St. Paul
O'Brien, H. J.....St. Paul
O'Connor, J. V.....St. Paul
Odendahl, F. H.....St. Paul
Ohage, J.....St. Paul
Pine, A. A.....St. Paul
Pine, O. S.....St. Paul
Plondke, F. J.....St. Paul
Quinn, J. A.....St. Paul
Ramsey, W. R.....St. Paul
Ravich, S.....St. Paul
Renz, G. A.....St. Paul
Riggs, C. E.....St. Paul
Ritchie, H. P.....St. Paul
Ritchie, Parks St. Paul
Rogers, J. T.....St. Paul
Rothrock, J. L.....St. Paul
Roy, Philemon St. Paul
Savage, Francis J.....St. Paul
Schadle, J. E.....St. Paul
Schwyzer, Arnold St. Paul
Senkler, Geo. E.....St. Paul
Shimonek, Anton St. Paul
Sneve, Haldor St. Paul
Sohlberg O.....St. Paul
Staley, J. C.....St. Paul
Sweeney, Arthur St. Paul
Sweney, C. F.....St. Paul
Taylor, H. L.....St. Paul
Tessler, M.....St. Paul
Van Slyke, C. A.....St. Paul
Van Slyke, F. W.....St. Paul
Vieregge, J. A.....St. Paul
Vittum, W. H.....St. Paul
Walrath, Belle St. Paul
Walsh, E. F.....St. Paul
Warne, E. G.....St. Paul
Wheaton, C. A.....St. Paul
Whitacre, J. C.....St. Paul
Whitcomb, A. L.....St. Paul
Whitcomb, E. H.....St. Paul
Whitman, A. F.....St. Paul
Whitney, A. W.....St. Paul
Williams, C.....St. Paul
Wood, E. S.....St. Paul

Washington County Medical Society

Regular meetings second Tuesday every two months, odd numbered months.
Annual meeting in January.

Clark, T. C., President.....
..... Stillwater
Landeen, F. G., Secretary.....
.....Stillwater
Boleyn, E. S.....Stillwater
Freligh, E. O'B.....Stillwater
Haines, J. H.....Stillwater
Kalinoff, D.....Stillwater
Merrill, B. J.....Stillwater
Noth, Henry W.....Marine Mills
Pratt, W. H.....Stillwater
Ryan, E. P.....Stillwater
Stevens, F. A.....Lake Elmo
Swartz, W. J.....Forest Lake
Thomas, O. F.....Lakeland
Voigt, W. C.....Stillwater
Watier, G. N.....Stillwater
Wells, E. E.....Stillwater

Chisago-Pine County Medical Society

Anderson, C. A., President...
.....Rush City
Gemmell, J. E., Secretary.....
.....Rush City
Barnum, E. E.....Pine City
Cowan, D. W.....Sandstone
Dredge, H. P.....Sandstone
Gunz, A. N.....Centre City
Hertzman, C. O.....Lindstrom
Lundgren, C. E.....North Branch
Lyons, A.....Pine City
Murdock, H. G.....Taylor's Falls
Riley, E. A.....Willow River
Stephan, E. L.....Hinckley
Sternberg, Oscar.....North Branch
Taustrom, Ingeborg.....Harris
Weisman, R. L.....Pine City
Werner, O. S.....Lindstrom
Zeien, Thos.....North Branch

Central Minnesota District Medical Society

Mille Lacs, Isanti, and Kanabec Counties

Cooney, H. C., President..... Princeton
Armitage, Thos. T. L. F., Secretary.....Princeton

Caldwell, D. K.....Milaca
Caley, G. R.....Princeton
Hixon, R. B.....Cambridge

Lewis, A. I.....Mora
Titus, W. S.....Mora
Whiting, I. F.....Spencer Brook

St. Louis Lake, Carleton, and Itasca County Medical Society

Regular meetings second Thursday of each month.
Annual meeting in December.

Eklund, J. J., President..... Duluth
Taylor, C. W., Secretary..... Duluth
Adams, B. S.....Hibbing
Ayers, G. T.....Ely
Bagley, W. R.....Duluth
Barrett, E. F.....Eveleth
Boyer, S. H.....Duluth
Braden, A. J.....Duluth
Bray, C. W.....Biwabik
Brunelle, A. M.....Cloquet
Budd, J. D.....Two Harbors
Bullen, F. W.....Eveleth
Carson, J. H.....Duluth
Cheney, E. L.....Duluth
Collins, H.....Duluth
Coventry, W. A.....Duluth
Crowe, J. H.....Virginia
Davis, H. S.....Duluth
Daugherty, E. B.....Eveleth
Deslauriers, A. A.....Duluth

Drenning, F. C.....Duluth
Farmer, J. C.....McKinley
Flemming, James Cloquet
Graham, D.....Duluth
Graham, R.....Duluth
Greeley, L. Q.....Duluth
Hirschfield, M. S.....Duluth
Hovde, H.....Duluth
Jern, J. H.....Duluth
Johnson, A. E.....Cloquet
Keyes, C. R.....Duluth
Knauff, M. K.....Two Harbors
Lenont, C. B.....Virginia
Linneman, N. L.....Duluth
Lum, C. E.....Duluth
Lyman, F.....Duluth
McAuliff, J.....Duluth
McComb, C. F.....Duluth
McCoy, M.....Duluth
McCuen, J. A.....Duluth
Magie, W. H.....Duluth
Maris, Emily Duluth

More, C. W.....Eveleth
Mortenson, W. S.....Duluth
Murray, D. D.....Duluth
Oredson, O. A.....Duluth
Pare, L. F.....Duluth
Patton, F. J.....Duluth
Payette, C. H.....Duluth
Robinson, J. M.....Duluth
Rood, D. C.....Hibbing
Salter, W. H.....Duluth
Schlick, A. F.....Duluth
Stewart, C. A.....Duluth
Stierle, Adolph, J....Two Harbors
Stocker, S.....Duluth
Storch, J. M.....Grand Rapids
Strech, E. D.....Duluth
Tahley, E. W.....Duluth
Taylor, A. C.....Duluth
Tilderquist, D. L.....Duluth
Walker, A. E.....Duluth
Weston, J. B.....Duluth
Wilkinson, S.....Duluth

FOURTH DISTRICT

Councilor, F. A. Knights.....Minneapolis

Hennepin County Medical Society

Thomas, David O., President.. Minneapolis
Knights, F. A., Secretary..... Minneapolis
Abbott, A. W.....Minneapolis
Adair, F. L.....Minneapolis
Aldrich, A. G.....Minneapolis
Aling, C. P.....Minneapolis
Anderson, A. E.....Minneapolis
Anderson, J. D.....Minneapolis
Arey, H. C.....Excelsior
Aurand, W. H.....Minneapolis
Aurness, P. A.....Minneapolis
Aylmer, A. L.....Minneapolis
Baier, Florence C.....Minneapolis
Barber, J. P.....Minneapolis
Bartlett, C. K.....Minneapolis
Barton, G. C.....Minneapolis
Bass, G. W.....Minneapolis
Baxter, S. H.....Minneapolis
Beard, R. O.....Minneapolis
Beckman, E. H.....Minneapolis
Behrens, B. M.....Minneapolis
Bell, J. W.....Minneapolis
Bendeke, Karl.....Minneapolis
Benjamin, A. E.....Minneapolis
Bessessen, A. N.....Minneapolis
Bishop, C. W.....Minneapolis
Blake, James Hopkins
Bloom, Wm. D.....Minneapolis
Bouman, H. A.....Minneapolis

Bracken, H. M.....St. Paul
Bradley, C. H.....Minneapolis
Brown, E. J.....Minneapolis
Brown, R. S.....Minneapolis
Byrnes, W. J.....Minneapolis
Caine, A. F.....Anoka
Cary, H. E.....Minneapolis
Carlaw, C. M.....Minneapolis
Cates, A. B.....Minneapolis
Chapman, O. S.....Minneapolis
Chowning, W. M.....Minneapolis
Cirkler, A. A.....Minneapolis
Cockburn, J. C.....Minneapolis
Cohen, H. A.....Minneapolis
Condit, W. H.....Minneapolis
Cooke, W. H.....Minneapolis
Corbett, J. F.....Minneapolis
Cowles, D. C.....Minneapolis
Crosby, J. A.....Minneapolis
Cosmann, E. O.....Minneapolis
Cross, Jno. G.....Minneapolis
Crume, Geo. P.....Minneapolis
Day, L. W.....Minneapolis
Dart, L. O.....Minneapolis
Dearborn, B.....Minneapolis
Disen, C. F.....Minneapolis
Donaldson, C. A.....Minneapolis
Doyle, J. W.....Minneapolis
Driesbach, N.....Minneapolis
Dumas, C. H.....Minneapolis
Dunsmoor, F. A.....Minneapolis
Dutton, C. E.....Minneapolis

Eitel, Geo. G.....Minneapolis
Erb, Frederick A.....Minneapolis
Farr, R. E.....Minneapolis
Fitzgerald, R. J.....Minneapolis
Fliesburg, O. A.....Minneapolis
Force, J. F.....Minneapolis
Fullerton, Ellen C.....Minneapolis
Gould, J. B.....Minneapolis
Graham, B. F.....Minneapolis
Green, E. K.....Minneapolis
Hack, C. W.....Minneapolis
Haggard, G. D.....Minneapolis
Hall, W. A.....Minneapolis
Hamilton, A. R.....Minneapolis
Hare, E. R.....Minneapolis
Harrah, J. W.....Minneapolis
Harrington, C. D.....Minneapolis
Hartzell, Thos. B.....Minneapolis
Haverfield, Addie R...Minneapolis
Haynes, F. E.....Minneapolis
Head, Geo. D.....Minneapolis
Helk, H. H.....Minneapolis
Henry, C. E.....Minneapolis
Hill, R. J.....Minneapolis
Hirschfield, Adolph.....Minneapolis
Hcegh, Knut.....Minneapolis
Holl, M. P.....Minneapolis
Hvoslef, Jakob.....Minneapolis
Hunter, C. H.....Minneapolis
Hutchins, E. A.....Minneapolis
Hynes, James Minneapolis
Ingraham, Elizabeth...Minneapolis

Irwin, A. F.....Minneapolis
Jensen, M. J.....Minneapolis
Johnson, M. J.....Minneapolis
Jones, Herbert W.....Minneapolis
Jones, W. A.....Minneapolis
Kelly, E. S.....Minneapolis
Kelsey, C. A.....Minneapolis
Kennedy, Jane.....Minneapolis
Kimball, H. H.....Minneapolis
Kistler, C. M.....Minneapolis
Kistler, J. M.....Minneapolis
Kriedt, Dan'l.....Minneapolis
Laliberte, Thos.....Minneapolis
Lapierre, C. A.....Minneapolis
Laton, W. S.....Minneapolis
Laws, F.....Minneapolis
Lee, Thos. G.....Minneapolis
Leland, H. N.....Minneapolis
Lewis, J. M.....Minneapolis
Lind, A.....Minneapolis
Lind, C. J.....Minneapolis
Linjer, O. E.....Minneapolis
Linton, W. B.....Minneapolis
Little, J. W.....Minneapolis
Litzenberg, J. C.....Minneapolis
Loberg, A. E.....Minneapolis
Lockwood, S. O.....Minneapolis
Long, Jesse.....Minneapolis
Luther, Clara M.....Minneapolis
McCollom, C. A.....Minneapolis
McDaniel, Oriana.....Minneapolis
McDonald, H. N.....Minneapolis
McDonald, I. C.....Minneapolis
McDougald, D. W.....Minneapolis
McEachran, A.....Minneapolis
McIntyre, E. H.....Minneapolis
McMurdy, R. S.....Minneapolis
Macdonald, J. W.....Minneapolis
Macnie, J. S.....Minneapolis
Malchow, C. W.....Minneapolis
Mann, A. T.....Minneapolis
Mead, Marion A.....Minneapolis
Mintener, J. W.....Minneapolis
Mitchell, L. C.....Minneapolis
Moore, J. E.....Minneapolis
Moore, J. T.....Minneapolis
Moorehead, Martha B...Minneapolis
Morton, H. McI.....Minneapolis
Murdock, A. J.....Minneapolis
Murphy, W. B.....Minneapolis
Murray, Wm. R.....Minneapolis
Nelson, H. S.....Minneapolis
Nippert, L. A.....Minneapolis
Nootnagle, Chas.....Minneapolis
Nye, W. F.....Minneapolis
Orton, H. N.....Minneapolis
Parker, E. H.....Minneapolis
Peters, R. M.....Minneapolis
Petit, C. W.....Minneapolis
Phillips, Edwin.....Minneapolis
Pineo, W. B.....Minneapolis
Poehler, F. T.....Minneapolis
Polk, Wm. R.....Minneapolis
Porteous, W. N.....Minneapolis
Putman, Catherine E...Minneapolis
Quinby, Thos. F.....Minneapolis
Read, Harry.....Minneapolis
Rees, S. P.....Minneapolis
Ringnell, C. J.....Minneapolis
Rishmiller, J. H.....Minneapolis
Roberts, Cora B.....Minneapolis
Roberts, Thos. S.....Minneapolis
Robitshek, E. C.....Minneapolis
Rochford, W. E.....Minneapolis
Rogers, Jno. J.....Minneapolis
Rutledge, J. W.....Minneapolis
Schwyzer, G.....Minneapolis
Seashore, Gilbert.....Minneapolis
Sessions, J. C.....Minneapolis
Shelden, W. D.....Minneapolis
Simpson, Chas.....Minneapolis
Simpson, J. D.....Minneapolis
Slagle, C. G.....Minneapolis
Smith, C. A.....Minneapolis
Smith, D. E.....Minneapolis
Spratt, C. J.....Minneapolis
Spratt, C. N.....Minneapolis
Soderlind, A.....Minneapolis
Staples, H. L.....Minneapolis
Stewart, J. Clark.....Minneapolis
Straub, C. O.....Minneapolis
Strout, E. S.....Minneapolis
Stuart, J. H.....Minneapolis
Sweetser, H. B.....Minneapolis
Thomas, Geo. H.....Minneapolis
Thorkelsen, Thorvald...Minneapolis
Tibbetts, J. I.....Minneapolis
Todd, F. C.....Minneapolis
Towers, F. E.....Minneapolis
Towers, Mary E.....Minneapolis
Tupper, W. G. W.....Minneapolis
Ulrich, Henry L.....Minneapolis
VanderHorck, M. P....Minneapolis
Wang, A. M.....Minneapolis
Wanous, E. L.....Minneapolis
Watson, J. A.....Minneapolis
Watson, Jno.....St. Louis Park
Wesbrook, F. F.....Minneapolis
Weston, C. G.....Minneapolis
Whipple, C. D.....Minneapolis
White, S. M.....Minneapolis
Wilcox, Archa E.....Minneapolis
Wilcox, Van H.....Minneapolis
Williams, C. W.....Minneapolis
Williams, H. L.....Minneapolis
Williams, U. G.....Minneapolis
Woodard, F. R.....Minneapolis
Woodworth, Elizabeth..Minneapolis
Wright, C. D.....Minneapolis
Wright, F. R.....Minneapolis

Meeker County Medical Society

Hildebrandt, E., President.....Forest City
Robertson, J. W., Secretary...Litchfield
Cassell, H. E.....Litchfield
Chapman, W. E.....Litchfield
Cutts, G. A. C.....Grove City
Donovan, J. J.....Eden Valley
Kauffman, J. H.....Dassel
Morell, Harry Litchfield
Vibrance, C. G.....Watkins

Wright County Medical Society

Regular meetings first Monday in January, April, July and October.
Annual meeting in January.

Catlin, T. J., President.....Delano
Shannon, E. A., Secretary....Buffalo
Berquist, K. E.....Cokato
Bissell, F. S.....Maple Lake
Catlin, J. J.....Delano
Chilton, E. Y.....Howard Lake
Dahlquist, George W.....Cokato
Hawkins, E. P.....Montrose
Higgins, J. H.....Rockford
McKeon, Owen St. Michael
O'Connor, J. P.....Delano
O'Hair, P.....Waverly
Ridgway, A. M.....Annandale
Rogers, G. M. F.....Buffalo
Shrader, E. E.....Watertown

Stearns-Benton County Medical Society

Regular meetings third Tuesday of January, April, July and October.
Annual meeting in April.

Beebe, W. L., President.....St. Cloud
Whiting, Anton D., Secretary.....St. Cloud
Boehm, J. C.....St. Cloud
Brigham, G. S.....St. Cloud
Chilgren, G. A.....Sauk Rapids
DuBois, Julian A.....Sauk Center
Dunn, John B.....St. Cloud
Edmunds, I. L.....St. Cloud
Ferree, George P..New Paynesville
Hilbert, Pierre A.....Melrose
Holdridge, Geo. A.....Foley
Hubert, R. I.....St. Cloud
Kern, Max J.....Freeport
Lamb, Harold L.....Sauk Center
Lewis, Edwin J.....Sauk Center
McMasters, James M..Sauk Center
Maloy, Geo. E.....St. Cloud
Meyer, Edward St. Cloud
Pilon, Pierre C....New Paynesville
Putney, Geo. E....New Paynesville
Sherwood, Geo. E.....Kimball
Wolner, O. H.....St. Cloud
Woods, E. A.....Clear Lake

Kandiyohi-Swift County Medical Society

Meetings at call of President.
Annual meeting in April.

Scofield, C. L., President.....Benson
Newman, G. A., Secretary.....New London
Archibald, F. M.....Atwater
Daignault, Oscar.....Benson
Frost, E. H.....Willmar
Johnson, Christian.....Willmar
Johnson, Hans Murdock
Peterson, J. R.....Willmar
Rains, J. M.....Willmar

FIFTH DISTRICT

COUNCILOR, H. M. WORKMAN.....Tracy

Renville, Chippewa, Lac qui Parle, Yellow Medicine, and Sibley County Medical Society

Regular meetings second Tuesday in January, April, July and October.
Annual meeting in January.

Mesker, G. H., President.....Olivia
Zimbeck, R. D., Secretary.....Montevideo
Bacon, R. S.....Montevideo
Beck, W. M.....Milan
Burns, M. A.....Milan
Bushey, M. E.....Arlington
Clay, E. M.....Renville
Cressey, F. J.....Granite Falls
Duncan, Henry.....Marietta
Ferguson, James B.....Olivia
Flower, Ward Z.....Gibbon
Gammell, H. W.....Madison
Giere, E. O.....Madison
Hacking, F. H.....Granite Falls
Hendrickson, H. W....Montevideo
Heimark, J. H.....Cyrus
Leuty, Amos.....Morris
McKibbin, H. E.....Hector
Johnson, A. Einar.....Madison
Johnson, H. M.....Dawson
Johnson, Otto F.....Winthrop
Jones, D. N.....Gaylord
Kanne, C. W.....Arlington
Kilbride, J. S.....Canby
Langford, J. J.....Green Isle
Lee, Wm. P.....Fairfax
Lumley, W. A.....Renville
Mee, P. H.....Gaylord
Moore, W. J.....Wood Lake
Nelson, N. A.....Dawson
Penhall, F. W.....Morton
Rees, H.....Maynard
Rogers, C. E.....Montevideo
Rogers, H. W.....Montevideo
Schjelderup, N. H....Granite Falls
Stemsrud, A. A.....Dawson
Stoddard, A. G.....Fairfax
Stratton, W. M.....Granite Falls
Strout, George F.....Winthrop
Thrane, M.....Madison
Tillisch, Henrik.....Canby
Titus, J. H.....Sacred Heart
Torgerson, W. B.....Clarkfield
Watson, Charles W.....Boyd
Watson, F. G.....Clarkfield

Brown-Redwood County Medical Society

Regular meetings first Tuesday in January, April, July and October.
Annual meeting in January.

Adams, J. L., President.....Morgan
Brand, W. A., Secretary.....Redwood Falls
Bennett, O. E.....Sanborn
Bickford, T. J.....Milroy
Clement, L. O.....Lamberton
Fritsche, L. A.....New Ulm
Pease, Giles P.....Redwood Falls
Reineke, G. F.....New Ulm
Rothenberg, J. C.....Springfield
Schoch, J. L.....New Ulm
Schrader, J. S.....Springfield
Strickler, A. F.....Sleepy Eye
Strickler, O. C.....New Ulm
Vogel, J. H.....New Ulm
Weiser, J. B.....New Ulm
Wood, D. F.....Hanska

Lyon-Lincoln County Medical Society

Valentine, W. H., President...Tracy
Workman, H. M., Secretary...Tracy
Bacon, C. G.....Marshall
Cox, A. J.....Tyler
Cyr, A.....Ghent
Germo, Chas.....Balaton
Hard, A. D.....Marshall
Knudson, B. C.....Tyler
Persons, C. E.....Marshall
Robertson, J. B.....Cottonwood
Tharldsen, Thorp.....Cottonwood
Thordarson, Th.....Minneota
Wakefield, Wm.....Lake Benton
Weyrens, P. J.....Ivanhoe
Wimer, T. H.....Marshall

SIXTH DISTRICT

COUNCILOR, A. E. SPALDING.....Luverne

Southwestern Society

Pipestone, Rock, Nobles, Murray, Cottonwood, and Jackson Counties

Regular meetings second Thursday in January and July.
Annual meeting in January.

Manson, F. M., President.....Worthington
Jenckes, H. D., Secretary.....Pipestone
Beadie, W. D.....Windom
Bingham, Josephine.....Ruthton
Brown, A. H.....Pipestone
Clark, A. H.....Worthington
Francis, Thos. B.....Edgerton
Froshaug, S. J.....Hills
Gerber, Lou M.....Jasper
Green, C. A.....Windom
Hummiston, Roy....Worthington
King, Emil.....Fulda
Low, Thomas.....Pipestone
Lus, R. B.....Pipestone
May, C. C.....Adrian
Miller, Victor I.....Westbrook
Moen, J. K.....Windom
Nelson, C. P.....Westbrook
Richardson, W. E.....Slayton
Schultz, A. J.....Dundee
Searles, S. S.....Lakefield
Spalding, A. E.....Luverne
Stevens, C. C.....Jasper
Sullivan, M.....Adrian
Taylor, Wm. J.....Pipestone
Walker, F. E.....Worthington
Weidow, Henry.....Worthington
Weiser, F. R.....Windom
Wheat, F. C.....Ellsworth
Wright, C. O.....Luverne

Blue Earth Valley Medical Society

Faribault and Martin Counties

Regular meetings second Tuesday in January and July.
Annual meeting in January.

Richardson, W. J., President..Fairmont
Schmitt, S. C., Secretary.....Blue Earth City
Burton, C. N.....Elmore
Durgin, F. L.....Winnebago City
Forbes, H. J.....Winnebago City
Franklin, A. J....Blue Earth City
Hunt, F. N.....Blue Earth City
Hunte, A. F.....Truman
Jacobs, A. C.....Elmore
Johnson, H. P.....Fairmont
Leudtke, G. H.....Fairmont
Nannestad, J. R.....Bricelyn
Schmitt, A. F.....Wells

Watonwan County Medical Society

Cooly, C. O., Secretary.....Madelia
McCarthy, W. J.....Madelia
Rowe, W. H.....St. James

SEVENTH DISTRICT

COUNCILOR, F. A. DODGE.....Le Sueur

Nicollet County Medical Society

Nicollet and the West Half of Le Sueur County

Regular meeting two times a year, in January and September, at call of the President.

Aitkins, H. B., President.....Le Sueur Center
La Clerc, Joseph E., Secretary.....Le Sueur
Daniels, J. W.....St. Peter
Darling, W. H.....St. Peter
Dodge, F. A.....Le Sueur
Graham, D. M.....Le Sueur
Hopkins, M. P.....St. Peter
Kirk, D. A.....Le Sueur
McIntyre, G. W.....St. Peter
Merritt, Geo. F.....St. Peter
Munger, P. H.....Nicollet
Strathern, F. P.....St. Peter
Theissen, W. N.....Henderson
Tomlinson, H. A.....St. Peter
Valin, H. D.....St. Peter

McLeod County Medical Society

Regular meetings first Thursday in January, April, July and October. Annual meeting in January.

Barrett, E. E., President.....Glencoe
James, D. E., Secretary.....Hutchinson
Bolles, D. W.....Brownton
Clark, H. S.....Glencoe
Clement, Jno. B.....Lester Prairie
Dorsey, John H.....Glencoe
Dulude, S. Winsted
Hovorka, Thos. W.....Silver Lake
Nickerson, B. S.....Glencoe
Schefcik, John F.....Hutchinson
Sheppard, Fred.....Hutchinson
Sheppard, P. E.....Hutchinson
Tinker, C. W.....Stewart
Vollmer, Jos.....Hutchinson

Scott-Carver County Medical Society

Regular meetings first Thursday in March, June, September and December. Annual meeting in December.

Phillips, W. H., President.....Jordan
Reiter, H. W., Secretary.....Shakopee
Bolland, F. J.....Belle Plaine
Grivelli, C. T.....Young America
Landenberger, John....New Prague
McKeon, James.....Montgomery
Mohoney, G. R.....Belle Plaine
Novac, Edward E.....New Prague
Sanford, J. A.....New Market
Schmith, H. O.....Shakopee
Schneider, H. A.....Jordan

Goodhue County Medical Society

Hewitt, C. N., President.....Red Wing
Anderson, J. V., Secretary.....Red Wing
Backe, Edward.....Kenyon
Brynildsen, H. L.....Vasa
Conley, A. F.....Cannon Falls
Conley, H. E.....Cannon Falls
Dimmitt, F. W.....Red Wing
Gryttenholm, K.....Zumbrota
Jaehnig, B.....Red Wing
Jewell, E. L.....Pine Island
Jones, A. W.....Red Wing
McKinstry, H. L.....Red Wing
Sawyer, H. P.....Goodhue
Watson, T. R.....Zumbrota
Wellner, G. C.....Red Wing

Rice County Medical Society

Regular meetings first Wednesday of January, April, July and October. Annual meeting in January.

Rose, F. M., President.....Faribault
Huxley, F. R., Secretary.....Faribault
Brubaker, E. E.....Northfield
Cool, D. M.....Faribault
Dodge, A. A.....Faribault
Greaves, Wm.....Northfield
Hunt, W. A.....Northfield
Jackson, R. N.....Faribault
Macdonald, A.....Morristown
Mayland, M. L.....Faribault
Phillips, J. R.....Northfield
Pringle, A. F.....Northfield
Robillard, W. H.....Faribault
Rogers, A. C.....Faribault
Rumpf, W. H.....Faribault
Seeley, J. S.....Faribault
Smith, P. A.....Faribault
Warren, F. S.....Faribault
White, J. B.....Faribault
Wilson, W.....Northfield

Wabasha County Medical Society

Regular meeting (anually) first Thursday after first Monday in July.

Adams, W. T., President.....Elgin
Wilson, W. F., Secretary.....Lake City
Adams, J. C.....Lake City
Bayley, E. H.....Lake City
Bond, J. F.....Wabasha
Cochrane, W. J.....Lake City
Davis, J. P.....Hammond
Ingram, Lawrence....Zumbro Falls
Lester, Charles A.....Wabasha
McGuigan, Henry Mazeppa
Milligan, W. F.....Wabasha
Slocumb, J. A.....Plainview
Waste, J. P.....Plainview

EIGHTH DISTRICT

COUNCILOR, A. O. BJELLAND.....Mankato

Blue Earth County Medical Society

Regular meetings last Monday of each month. Annual meeting, December meeting.

Steel, E. D., President.....Mankato
Leidhoff, A. G., Secretary.....Mankato
Andrews, J. W.....Mankato
Benham, E. W.....Amboy
Bjelland, A. O.....Mankato
Bomberger, F. J.....Mapleton
Curran, G. R.....Mankato
Davis, E. J.....Minnehaha
Davis, F. U.....St. Clair
Edwards, J. M.....Mankato
Frisbie, Wm.....Mankato
Grimes, H. F.....Lake Crystal
Hering, H. H.....Lake Crystal
Holbrook, J. S.....Mankato
Holman, C. J.....Mankato
Holman, Madge T.....Mankato
Hughes, Helen.....Mankato
Hughes, Jane.....Mankato
James, J. H.....Mankato
Kelly, T. C.....Garden City
Krueger, L. W.....Mapleton
McMicheal, O. H.....Vernon Center
Merrill, J. E.....Amboy
Osborn, Lida.....Mankato
Parker, H. G.....Madison Lake
Schmauss, F. L.....Mankato
Smith, D. D.....Mankato
Steel, E. D.....Mankato
Warham, T. T.....Vernon Center
Webster, I. D.....Mankato
Williams, Jno.....Lake Crystal

Dodge County Medical Society

Baker, A. L., President.....Kasson
Harrison, E. E., President....West Concord
Adams, R. T.....Mantorville
Belt, W. E.....Dodge Center
Bigelow, C. S.....Dodge Center
Clifford, T. T.....West Concord
Davis, ...Kasson
Thimsen, N.....Hayfield
Way, O. F.....Clairmont

Freeborn County Medical Society

Wedge, A. C., President.....Albert Lea
Burton, O. A., Secretary.....Albert Lea
Barck, G. W.....Albert Lea
Freeman, J. P.....Emmons
McKey, T. F.....Albert Lea
Nissen, Henrik.....Minneapolis
Palmer, W. L.....Glenville
Rodli, O. E.....Albert Lea
Stevenson, Geo. A.....Albert Lea
Todd, W. E.....Albert Lea
Von Berg, J. P.....Albert Lea
Wilcox, H. H.....Albert Lea
Williams, Robt.....Alden

Houston-Fillmore County Medical Society

Browning, W. E., President...Caledonia
Drake, A. F., Secretary.....Lanesboro
Eby, C. B.....Spring Valley
Fischer, O. F.....Houston
Gowdy, F. A.....Harmony
Hart, A. B.....Canton
Jensen, T.....Spring Grove
Love, George A.....Preston
Onsgard, L. K.....Houston
Reay, G. R.....Hokah
Rhines, D. C.....Caledonia
Woodruff, C. N.....Wyckoff

Mower County Medical Society

Regular meetings second Wednesday of January, April, July and October.
Annual meeting in October.

Henslin, A. E., President.....Leroy
Pierson, H. F., Secretary.....Austin
Allen, A. W.....Austin
Cobb, W. F.....Lyle
Daigneau, F. E.....Austin
Fiester, Fannie K.....Austin
Frazer, W. A.....Lyle
Freeman, W. W.....Grand Meadow
Gray, G. W.....Brownsdale
Hart, M. J.....Le Roy
Hegge, C. A.....Austin
Hegge, O. H.....Austin
Hollister, W. L.....Austin
Johnson, C. H.....Austin
Leck, C. C.....Austin
Lewis, C. F.....Austin
McKenna, W. H.....Austin
Maercklein, C. J.....Le Roy
Maercklein, O. C.....Adams
Mitchell, R. S.....Grand Meadow
Rodger, E. H. Washburn....Austin
Schottler, G. J.....Dexter
Schultz, F. W.....Waltham

Olmsted County Medical Society

Gulick, W. V., President.....Oronoco
Granger, Chas. T., Secretary...Rochester
Baker, A. L.....Kasson
Crewe, John E.....Rochester
Dugan, R. C.....Eyota
Graham, C.....Rochester
Joyce, George T.....Rochester
Judd, E. S.....Rochester
Kilbourne, A. F.....Rochester
Linton, Laura.....Rochester
Mayo, C. H.....Rochester
Mayo, W. J.....Rochester
Mayo, W. W.....Rochester
Millet, M. C.....Rochester
Phelps, R. M.....Rochester
Plummer, H. S.....Rochester
Stevens, George.....Byron
Stinchfield, A. W.....Rochester
Witherstine, H. H.....Rochester

Steele County Medical Society

Regular meetings first Tuesday in odd numbered months.
Annual meeting in January.

Hatch, Theodore L., President.....Owatonna
Stewart, Allan B., Secretary...Owatonna
Adair, John H.....Owatonna
Andrist, James W.....Ellendale
Bakke, Ole H....Blooming Prairie
Bigelow, Edward E.....Owatonna
Eustis, Warren C.....Owatonna
Morehouse, G. G.....Owatonna
Schulze, George.....Owatonna
Smersh, Francis M.....Owatonna
Twiford, William H.....Owatonna
Wood, William S..Blooming Prairie

Waseca County Medical Society

Cummings, D. S., President....Waseca
Lynn, J. F., Secretary.....Waseca
Batchelder, E. J.....New Richland
Blanchard, H. G.....Waseca
Chamberlin, W. A.....Waseca
Hagen, H. O.....New Richland
O'Hara, J. J.....Alma City
Swartwood, F. A.....Waseca
Taylor, M. J.....Janesville

Winona County Medical Society

Regular meetings first Tuesday in January, April, July and October.
Annual meeting in January.

Muir, E. S., President.....Winona
McGaughey, J. B., Secretary..Winona
Blair, Paul B.....Winona
Boyd, C. A.....Lewiston
Brown, Harry Rollingstone
Clark, C. N.....St. Charles
Gates, G. L.....Winona
Heise, W. F. C.....Winona
Keyes, E. D.....Winona
Lane, N. S.....Winona
Leicht, Oswald Winona
Lichtenstein, H. M.....Winona
Lynch, J. L.....Winona
McGaughey, H. F.....Winona
Munger, L. H.....Winona
Olsen, O. R.....St. Charles
Pritchard, D. B.....Winona
Rollins, F. H.....St. Charles
Scott, J. W.....St. Charles
Steinbach, John Winona
Stewart, D. A.....Winona
Tweedy, G. J.....Winona

NORTHWESTERN LANCET

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THE FAMILY PHYSICIAN AS A FACTOR IN THE TUBERCULOSIS PROBLEM, AND HIS OBLIGATIONS TO HIS STATE*

By Philo E. Jones, M. D.

SALT LAKE CITY, UTAH

Fellow Members of the Utah State Medical Association:

Another milestone has been added to our professional progress in Utah, and as we pass in review the first decade of our history from this our eleventh anniversary, it is with justifiable pride that we behold a united profession, free from factions, cliques, and petty jealousies, and possessed of a wholesome fraternal union that we should each ever strive to maintain.

It may no longer be said of us, "Whoever hears of a Utah doctor?" for not a few of our members are annually heard in the halls of medical conventions in distant states, while their published papers are read by an annually increasing audience. Especially is this true of our surgeons. Would that I could speak thus commendably of our internests. It is a notable, and to me a lamentable, fact that the majority of our younger members see little that is attractive in the profession save in the practice of surgery. The glamor and spectacle, and—must I say it?—the fee of the operating-room are largely responsible for the crowding of our profession with indifferent surgeons, while the broad and equally important field of internal medicine is being sadly neglected.

The three learned professions—divinity law, and medicine—stand on an entirely different plane from all other callings or vocations. A reciprocal bond exists between their members and the state, which does not exist between those of the various trades. And upon the members of the three named professions certain prerogatives are conferred which are shared by none others. Confining ourselves to the considerations of our own profession, these prerogatives are in the documents, diplomas, and certificates that confer upon us the right to the use of the title doctor, styled authority, power, or privileges. The principal of these is the right to administer drugs, and other remedies of whatsoever nature, for the healing of diseases and injuries, and, for the rendering of such services to their fellows, to receive and even exact compensation.

It has always been considered, however, that the controlling motive in leading its votaries to enroll themselves in the ranks of the medical profession was not, as in the case of other vocations, to amass wealth, but to gratify a craving for knowledge, to advance the medical art, to relieve suffering, and to benefit humanity. The acquisition of a livelihood for themselves and those dependent upon them, while altogether praiseworthy and legitimate, has always been deemed a secondary consideration. No one can read the biographies of the fathers in medicine without being impressed with the predominance of this sentiment in their minds, and its controlling influence on their conduct.

Bishop Spalding of Illinois said, in a memorial address for the late Dr. N. S. Davis, not long ago: "In every profession there are

*President's Address, read before the Utah State Medical Association, May 9 and 10, 1905.

men without principle or character who prefer success to virtue, who, to get money are ready to prey on the weakness and miseries of their fellows, who, like the ghouls that gather whenever great calamities befall, consider the helplessness and suffering of their fellows but opportunities for plunder! And since a man is willing to give all he possesses for health, and since whoever can pay can advertise, the healing art offers the most inviting field for these hyenas in human shape; and, therefore, the medical profession, more than law and quite as much as the sacred ministry, is most commended and honored by men who to scientic attainments add the essential and abiding worth of moral character."

OBLIGATIONS OF PHYSICIANS TO THE STATE

What, then, are some of the obligations we owe to the state in return for the dignities and privileges bestowed upon us? First, a cultivated mind so prepared by all the exercises of a liberal education that it shall be able to receive, digest, and assimilate the great truths and mysteries of medical science; and, secondly, a trained mind thoroughly versed in all the technicalities of medical art.

The last half century, unfortunately, has witnessed a growing tendency to reduce our noble profession to the level of a mere trade, and its portals have been besieged, and too often successfully entered, by those having no such qualications as those above enumerated, and no ambitions in any way or degree higher than those of the tradesman—too often, indeed, with the intention of prostituting the sacred name of their calling to dishonorable, dishonest, or even criminal practices. Hence has arisen the necessity for the state to rise in its own self-defense, and set up barriers which shall stem this polluting tide, and restore the profession to its pristine nobility and purity as one of the mainstays of society.

THE TUBERCULOSIS PROBLEM

The consideration of the tuberculosis problem, in which I have been interested for a number of years, has convinced me of the correctness of that graphic expression of Osler that "in the warfare against tuberculosis the man behind the gun is the general practitioner." The one positive conclusion I have arrived at, through what I believe to be an earnest, unbiased, and careful study of this subject, is that this problem will be solved by, can never be solved without, the aid of the family physician, and that consumption, as a disease of the masses, will never be successfully combated until the day in which every family shall have its medical adviser.

As Knopf has recently said: "No matter how strict the sanitary regulations that boards of health may issue, no matter how many sanitoria and special hospitals for the consumptive poor we may have, we must look to the family physician for the bulk of the work in fighting the great white plague."

To secure the enforcement of sanitary regulations, as in the case of all statutory law, the sentiment and support of the community must first be obtained; and to obtain this support a campaign of education, by the press and pulpit, the physician and layman, must be unceasingly maintained. The tuberculosis problem is not solely a medical problem, but a sociological problem as well. Now, who is there of the entire community so well fitted, both by education and opportunity, to successfully engage in this sanitary mission work as the family physician? As he goes in and out among his families he should ever and continuously preach the gospel of sunlight and fresh air.

That tuberculosis is essentially a house disease has been conclusively demonstrated, and this fact is as true of cattle as it is of man. The wild cattle of the plains are, and the bison were, entirely free from bovine tuberculosis. The senseless fears of the house-wife of "night air" must be overcome. The smaller the cubic air space of the sleeping-room the wider open should be the windows in all weathers and temperatures. It should be the province of the family physician to be on the watch for the early and curable cases. The stooping shoulders, the badly developed or deformed chest, the pale and waxy skin, the lack of appetite with the loss of weight, the glistening eye, the peach-blow cheek, the frequent pulse and slight rise of temperature in the evening, a disinclination to engage in the

pleasures and duties that were formerly easy to perform, should put the physician on his guard, and at once institute a searching examination.

At this early period the bacteriological examination is rarely positive; and if allowed to do so, the disease may soon reach an incurable stage. To be able to give the patient the benefit of his best chance for recovery, proper treatment should be instituted long before his sputum is swarming with bacilli. This phase of the subject has been well expressed by Dr. Pryor when he said: "We must care for the consumptive in the right place, in the right way, and at the right time until he is cured; instead of, as now, in the wrong place, in the wrong way, at the wrong time, until he is dead." We know how true the latter clause of this quotation is, and also how important the early recognition of the disease, as well as the proper care of the case in the right place and right way.

BOARDS OF HEALTH AS EDUCATORS

Much, very much, is being accomplished by state and local boards of health as public educators, as instanced by the results in the states of Massachusetts and New York. Fifty years ago tuberculosis destroyed or crippled quite one-third of the inhabitants of these states. The death-rate in Boston at that time was 49 per 10,000 population. Last year it was less than 21, a decline of more than fifty per cent. In New York the death-rate from consumption in 1890 was twenty-four and a half per 10,000 population. In 1900 it had fallen to nineteen and one-tenth, a decrease of twenty-two and four-tenths per cent. Dr. Herman Biggs estimates the decrease in the death-rate from tubercular diseases in the last twenty years in New York at nearly forty per cent. These figures are not only a tribute to the efficiency of the Massachusetts and the New York health departments, but they also show what effort, intelligently directed, can accomplish against this insidious but deadly disease, and they prove that tuberculosis is a preventable disease, that it is a curable disease, and that, too, without a specific for its cure. With the resources now within our knowledge it can be, in time, banished from the homes of men.

FACTORS OF MOST IMPORTANCE

One of the factors of first importance in relation to this problem that should be impressed upon the community, is the universally accepted biological law "that like begets like," that for every case of tuberculosis, a previous case, in man or animal, has existed. And this law applies to all infectious diseases, as well as to tuberculosis.

That a small percentage of this disease originates from the consumption of infected milk and meat is now very generally believed. Tubercle bacilli frequently appear in the milk of cows with but limited tuberculous lesions, and these not necessarily located in the udder.

HUMAN AND BOVINE TUBERCULOSIS

The latest views in regard to the identity and transmissibility of bovine and human tuberculosis have been, very recently, summarized by Flexner. He says: "After Koch's London address wherein he denied the transferance of bovine tuberculosis to man, a number of governments appointed commissions to look into the subject. The English Royal Commission has made a partial report based upon the study of two thousand cadavers, and they state that the pathological effects of the two strains of bacilli are identical. They state that the lesions produced by the bovine and human bacilli are indistinguishable from each other, and they evidently regard Koch's dictum as erroneous. A more recent report from a German commission states unequivocally that the bovine disease is transferable to man, but that the bovine bacilli maintain their characteristic morphology. A report by Theobald Smith of Harvard, who first pointed out the morphological difference between the strains of bacilli, published in the American Journal of Medical Sciences, details three autopsies on children whose death was due to bovine origin. The fact appears that bovine tuberculosis is transferable to the human being and that it is fatal for man, though in a less degree than the disease produced by the human tubercle bacilli. That these acid-fast bacilli are but mutations from a parent stock seems exceedingly probable, and the timothy hay bacillus has been suggested as the parent organism.

The manner in which the tubercle bacilli become virulent for fowls, the avian tuberculosis, and the further discovery of tuberculosis by Friedman in the turtle, a cold-blooded animal, show the tubercle bacilli to acquire a wide range of parasitism.

The similarity of the reactions of the tuberculous from these various sources and their power to immunize experimental animals against human tubercule bacilli, are strongly indicative of a common origin. Bovine tuberculosis is in all likelihood merely a tuberculosis modified by the peculiarities of the animal, hence all precautions against its spread are next in importance to the care of human secretions themselves.

PERSONAL HYGIENE

This brings us to the consideration of the most important phase of our subject, the personal hygiene of the tuberculous patient. If a man, he should be clean shaven. The hairs of the beard and mustache are constantly catching droplets of the saliva and sputum, and as this dries quickly it is well nigh impossible to keep the face clean. The proper care of the skin and the hygiene of the mouth are matters that the physician should impress upon both patient and attendant. The use of an antiseptic mouth-wash with a tooth brush, before and after meals, should be enjoined, and also the cleaning of the hands and face before each meal, to avoid ingestion of bacilli in saliva dried upon the skin. The nails being great harborers of bacteria should be kept well trimmed, and the use of the nail-brush with each washing of the hands should be enjoined. The patient should be advised of the danger to himself of swallowing the sputum, a habit that, unfortunately, is too common, and must be broken up.

But the thing of greatest importance in the sanitation of the tuberculous patient is the disposal of the sputum. Since the bacilli are confined to the sputum in the early stages of pulmonary tuberculosis, the thorough destruction of this excretion will effectually prevent the spread of the infection. The medical adviser cannot be too insistent in impressing this important fact upon the minds of patient and friends alike. Not only must great care be taken in the collection of the sputum, but also the utmost cleanliness must be observed in the care of the utensils used and the care of the hands, person, and clothing, of both patient and nurse. Every patient should be provided with a suitable sputum-cup or flask made of such material that it can be economically destroyed, or sterilized by boiling. While confined to his room, the ordinary open metal cup containing an antiseptic solution is quite as convenient as any. When taking exercise, either walking or riding, a more convenient receptacle is a pocket flask like those devised by Knopf or Detweiler. The patient should be taught to use his cup or flask at all times, no matter where he may be. Under no circumstances whatever should he expectorate, either sputum or saliva, upon the floor, ground, street, or gutter. He should never be without his cup or flask—the flask when away from the room, the cup at all other times.

Unquestionably, sterilization of the discharges from the respiratory and oropharyngeal mucous membranes, is one of the greatest problems in connection with the prevention of all infectious diseases of the respiratory organs. Destruction of the discharges from the urinary and intestinal tracts is a simple matter compared with the disinfection of the sputum, visible and invisible.

On the basis of this survey, it is urged on physicians that they impress upon the minds of both patients and attendants that these discharges contain the infectious germs capable of carrying the disease to other persons. My belief is that this rule should be carried out more generally and more insistently than has been the custom heretofore.

HOUSE DISINFECTION

A word regarding house disinfection. Careful studies and observations have demonstrated the fact that the floor, walls, and furniture of a room occupied by a tuberculous patient become the depositaries of the tubercle bacillus; that in dark, damp, illy ventilated apartments these bacilli remain viable for many months and are capable of infecting, and frequently do infect, the otherwise well occu-

pants of such rooms. Hence the necessity of house disinfection.

The floors should be gone over daily with a mop moistened in a one-per-cent solution of chlorinated lime, and the mop put into boiling water after its use. Once a week the furniture, walls, and windows should be wiped with cloths moistened with a similar solution, and the cloths burned.

At least once a month it would be well to disinfect the room with formaldehyde gas, all articles of furniture contained in the room to remain in place, and books that the patient may have used should be stood on end and opened so as to separate the leaves. Who, seeing a tubercular patient reading and coughing as he reads, and noting in this act the spraying of the leaves with fine droplets of mucus, can fail to realize the danger that may arise from such contamination? The frequent disinfection of all books used by such patients becomes a matter of great importance.

REPORTING TUBERCULOSIS

This brings us to the consideration of the notification of pulmonary tuberculosis. The value to the public health of a system of registration of all tubercular cases can hardly be denied by any one who has at all concerned himself with the modern warfare against this disease. The same may be said of the corollary of this measure, namely, the compulsory disinfection of dwellings.

The first essential in combating any infectious disease is definite knowledge of its extent and distribution, and how is the knowledge possible unless all cases are reported?

The importance of house infection in the spread of tuberculosis is receiving more and more attention, and it is difficult to see how any one at all familiar with this important phase of the subject, whether in city or country, can object to a measure which aims to remove this particular source of infection. As a basis for sanitary reform of the poorer parts of a city, and for compulsory disinfection of infected houses, a knowledge of the distribution of the disease can be obtained only by a good system of registration.

CONCLUSION

In conclusion, and again referring to our obligations to the state, let me quote from a recent article by Charles Gilmore Kerley, wherein he says:

"The physician can in no possible way serve the nation better than by teaching the mothers of the nation how to rear the children of the nation. It is the physician who comes in deliberate contact with the daily family life, and who speaks and they believe. The physician is the physical guardian of the rising generation, and determines, in a great measure, the character of the spiritual, commercial, and political life of the nation; in fact, he aids the people of the nation to receive what they have a right to demand. As a result of his having lived, and lived nobly, there will be happier homes, fewer disappointed lives, and less crime. In such a capacity and from such a standpoint of national work, the physician is the most important member of the community in which he resides. A more valuable man to the state and nation, than a man in any other calling, who prepares the soil, for without sound bodies and normal minds, sacred and religious teachings are of little avail. Where the nation shall stand twenty-five or fifty years hence, and what position it shall occupy among the nations of the earth depends more on the physicians of today than on any other calling whatever."

Until such time, fellow members, as every family shall retain its physician by the year,—as was largely the custom in the South in antebellum days,—when the people of the State shall find it to be to their advantage to pay their physicians for keeping them well, instead as now, for getting them well, we should be content with the satisfaction of duty well performed, and reflect on the heritage of honor and of sacred trust that is ours as physicians.

DISCUSSION

The address was received with applause. Dr. S. Ewing, among others making complimentary remarks, stated that the subject chosen by the president was one eminently worthy of discussion by those present, and called upon Dr. R. W. Fisher.

Dr. Fisher: Dr. Fisher said that he felt very little could be added to what had been said; that he would not take up time in reiterating the sentiments expressed

in the paper, but felt that the physicians in every civilized community occupied a place distinct from other professional men; that they were really the most important members of society, and that as such we should strive to assert our rights, undertake a campaign of education, advising, instructing, and, by precept and example, instilling into the minds of all, especially the rising generation, the nature of all communicable diseases, infection, prophylaxis, etc. He believed the time would arrive when physicians would have a voice in the affairs of municipal economics that would be heard better than it is today; that the community in all matters germane to the subject of public health, would be governed by the medical profession; that we would, in a certain sense, constitute a trust, but not of the present mercenary type, however. He stated that, heretofore, any attempt at legislation on the part of the profession was looked upon as a sort of persecution by pretenders of the healing art; that we had personal benefit as a motive in such legislation.

This idea would undergo a change, he thought, and the public would be compelled to accept our advice upon these vital questions, especially the communicability of tuberculosis. He completed his remarks by stating that bacteriology was, comparatively, a new branch of medicine; that we were gaining, however, in knowledge, from day to day, and that there were problems still unsolved, and that there were still obscure phases in the life and perpetuation of this disease. He said that doctors had regarded every case of tuberculosis as originating or coming from another case of the same disease; but that if that were true, and there were no other sources of infection, it would be a relatively easy matter, in time, to eradicate this disease from the homes of mankind; but he thought there were other, many other, sources accounting for the origin of the disease. He expressed the belief, a view that is current, that the disease originates from other contributory factors; that inactivity, lack of exercise, too much confinement to the house, the breathing of vitiated air from defective ventilation, all coupled with a lowered state of vitality, tend to produce the disease. He cited the fact that cattle living in the open, unconfined, were not tuberculous, and that the disease seems to make its appearance as soon as the animals became confined. He asked the question, then, How is tuberculosis acquired by these confined animals, even when taken care of by persons not affected with the disease? The point he wished to emphasize was this, that the tubercle bacillus is widely disseminated, and that it is a disease often like scarlet fever, typhoid, and other diseases, which we are often unable to trace to a personal infection from another case. He said that it might be found in hay; that the hay bacillus might be the parent of the bovine tuberculosis germ. From so many cases of obscure origin he felt that we could only infer that, although every effort at disinfection should be carried out, the bacilli are widely disseminated. He said that the people had been taught the value of disinfection, but should be better instructed in other matters; that they should be taught that poor ventilation and bad air are predisposing factors; that houses should be properly ventilated; that the public should be taught this and made to realize it as the keynote of prevention, especially of tuberculosis; and, finally, that natural means are at hand for its cure; that fresh air and an abundance of sunlight are of the greatest importance in the management of this disease. He has been telling his patients to be careful in going back East, cases of a tuberculous tendency; that they should have proper ventilation at any price; and, after all, he believes the East is no more conducive to the development of this disease than the West; that it is not so much a matter of where we are, as it is a question of fresh air and plenty of it. And it seems that it makes little difference where we are, so long as we have an abundance of fresh air, and sufficient exercise. These, then, are the facts to keep in mind.

Dr. A. C. Ewing: I would like to ask Dr. Jones whether or not any recent advances have been made of a favorable nature, looking to the treatment of tuberculosis by means of serum? Dr. Jones, replying, said: So far as I know, the results of serotherapy in tuberculosis have been very disappointing, and no recent improvement has been made in perfecting a serum that will accomplish good results, so far as I have determined.

Dr. S. Ewing: Mr. President, I want to take this opportunity to say I have been, and I know others have also been, instructed in listening to this paper. It is a subject worthy of the widest attention, and I think we ought to have our city reporters here, so that this instructive treatment of it could be given to the general public in full. In all respect, I submit, there is only one thing that I would cut out of it. That is the tooth-brush. And my reason for saying so is this: These patients never take care of the tooth-brush, allowing accumulations to occur in among the bristles. I much prefer, in these cases, a wad of cotton, or borated cotton, for the cleansing of the mouth. With this the teeth and mouth can be kept clean, and the cotton can be destroyed by burning it after it has been used. So, I think, Mr. President, that you ought to let the tooth-brush go, unless you have an intelligent and co-operating patient who will properly take care of it.

CONGENITAL DISLOCATION OF THE HIP*

By S. C. Baldwin, M. D.

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SALT LAKE CITY, UTAH

When Prof. Adolph Lorenz visited this country some two years ago and demonstrated his method of reducing a congenitally dislocated hip the profession of the United States received him with open arms, and a great number of them at least felt that it was the method of choice in a large proportion of the cases, if not in all. This led to careful watching of the cases operated upon and to more accurate observations of the final results obtained.

In Salt Lake City Prof. Lorenz operated on two cases, one a single and one a double case. The double case I have never seen since, and

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have no positive knowledge as to the result, as the child lived some distance from Salt Lake City, and I have not heard directly from it.

The single case was in my charge as long as it remained in the cast, and is still occasionally brought to my office for examination.

A large number of the profession who saw Prof. Lorenz operate were favorably impressed, and I have no doubt thought it the ideal operation. I myself was so impressed, and after doing a few operations I felt that it was not only the best but the easiest operation both for the patient and the doctor.

As I understood Prof. Lorenz he advised keeping the patient in the cast eight or nine months, according to the indications, and feeling that it was better to err on the side of safety, if error was to be made. I kept the case he operated on, as well as my own cases, in casts for ten months or more. There are some reasons for this, one of which is, that if the head of the bone is in the acetabulum,the longer it is held there, short of producing ankylosis, the firmer and stronger the continuity of the re-position will be, and the surer will be the result desired. I believe in practically all of these congenitally dislocated hips that there is also a congenital defect in the shape of the head of the bone or the acetabulum, or both. If this be the case the longer the cast remains holding the leg in the abducted position, which, in walking, makes the head press more nearly into the center of the acetabulum and not so much on the upper border, the more likely these two surfaces will be to conform to each other, and the more likely they will be to remain in permanent apposition, and consequently the more likely we are to get an anatomically perfect result.

So much has been said and written on this subject in the last two years, and such exhaustive statistics have been published, that I shall not attempt to do more in this paper than touch upon some points that have impressed themselves upon me, and which you may take for whatever they are worth to you. Nor shall I confine myself to the consideration of the Lorenz method alone, but shall refer to some other operations, either to favor or condemn them.

Without going into the history of the subject to any extent I will say that, although there were a number of operations for congenital hips done, and some had even recommended and described a bloodless method before Lorenz, it still remains a fact that Lorenz has done more to perfect the method than anyone else, and when to-day the bloodless method of reducing a congenital dislocation of the hip is referred to it is the Lorenz method that is meant.

As I have said, I was a strong advocate of the Lorenz method, and expected great things from it.

I had removed the final cast from the single case which Prof. Lorenz had operated on, and she seemed to be all right except that she limped some, and if I remember correctly her leg was by measurement one-fourth inch longer than the opposite sound leg.

None of my own cases had been under treatment long enough to have the final cast removed, but judging from this case and from other reports I expected great things from the operation, and was enthusiastic in my advocacy of the method. I thought the limp was due to habit, and the lengthening of the leg to possibly the difference in the shape of the bones, or something of that kind.

Last winter I was in California, and while in San Francisco Dr. Harry Sherman told me of the results in the cases which Lorenz had operated on there, and showed me some of the radiographs of the cases. He also showed me some of his own cases on which he had operated by the open method, and told me that he should show these results at the meeting of the American Orthopedic Association at Atlantic City in June, and intimated that he should oppose the Lorenz method vigorously. These skiagraphs showed that the head of the bone was not in the acetabulum, but that the result was an anterior transposition.

I saw these radiographs, but thought more than likely these were only exceptional cases and that the majority of the cases would recover with an anatomically perfect result and that his criticisms of the operation would likely be too severe, so I made up my mind that I would go down there prepared to defend the

operation and the results, and in order to do this would have skiagraphs made of the case Lorenz operated on which seemed to show good results, and also of my own cases.

As I have said before, I have never seen the double case which Prof. Lorenz operated on since the day it was done, and being unable to find it I could only have a skiagraph made of his single case, and some of my own.

These skiagraphs were taken for me by Dr. Hammond of our city, and to my surprise Dr. Lorenz' case and one of mine showed practically the same position that Sherman's skiagraph showed. Another of mine showed a redislocation in the cast, and was again operated on.

When I removed what I intended to be the last cast from my first patient I found that the head of the bone could be felt and seen as a prominence in the groin, the head seemingly resting on the anterior edge of the acetabulum. To overcome this I inverted the leg, which seemed to cause the head to drop into the acetabulum. I then put it up in plaster-of-Paris, and left it for another six weeks. When this was removed the child walked very well, and the leg was longer than the other, but the skiagraph does not show that the head is in the acetabulum, although the result is what is called a good functional one, but not a perfect anatomical one, consequently my ardor waned, and I felt that there might be good reasons for doubting the wisdom of undertaking this operation in a great many cases.

There were other reasons for doubting the advisability of attempting this operation in some cases. Prof. Lorenz told me while in Salt Lake City of some of the accidents which he had had, having broken the bone several times, one of these times being in one of the cases operated on in Denver. Other accidents were rupture of the peroneum, paralysis, and Ridlon, I think, has reported the fracture of the shaft of the femur in one of his cases.

My first case, although an easy case, had severe bruising and a large achymotic area including the perineum and all the surrounding tissues; and the second case, while not being quite so bad, was still quite badly bruised.

Taking all these things into consideration I concluded that it would be wise at least to use caution in the selection of the cases on which we attempt to perform the bloodless operation.

It has been shown by skiagraphs and statistics that a large part of the results which are reported as perfect are not anatomically perfect results, but are only functionally good results. If even this can be accomplished I think,if the operation can be performed without doing too much violence to the neighboring tissues, that it should be the operation of choice, for, be one ever so cautious and his technique ever so perfect, I cannot feel that a compound or open wound is quite as safe as a closed wound.

If the parts are lax enough to allow the head, with moderate force, to be drawn down opposite the acetabulum, or even if, by preliminary stretching with weights for several weeks beforehand, this can be accomplished, then I feel that this is the operation to be tried, and if we even secure a good functional result with the leg as long as the other, or near enough the same length to prevent limping, we should be satisfied. If we cannot get such a result by this method, then what is to be done?

This summer in Philadelphia I saw Prof. Hoffa operate on several cases of this kind, and while he has modified his original operation, which was almost the same as doing a hip-joint amputation, I still do not favor his method.

He now makes an incision in front of the trochantor down to the capsule, then with a pair of strong scissors he cuts away the capsule to such an extent that you would think it was cut entirely away from the acetabulum. He then replaces the head, and, without doing anything with the capsule, closes the external wound, puts it up in plaster, and leaves it, if I remember correctly, only from two to four months. Should the patient be one of more advanced age, say 15 years or more, with severe adduction, his operation is one of considerably more magnitude.

After getting through the capsule he cuts off the head of the femur leaving the rough end of the neck. He then reopens the acetabulum

with a Guyon reamer, after which he introduces into this raw surface the rough end of the neck, packs the wound with gauze, and puts the limb up in plaster, and leaves it until union has taken place, causing ankylosis. Later he does a subtrochanteric osteotomy, and in this way claims to get good results.

I am frank to say that, while I have had no experience with this operation and only saw him do one case, which was a double case, I should oppose such an operation as strongly as I was capable of doing.

He also has a blodless operation in which he proposes to bring the head down, and instead of introducing it into the acetabulum from behind, as is done in the Lorenz operation, he introduces it into the acetabulum from below, and then puts it up as does Lorenz, except that he does not use such extreme abduction.

This does not appeal to me for this reason: the head as a rule will slip out of the acetabulum at the back, and in order to reduce it the head must either slip back through the opening where it emerged or it must tear the capsule loose to such an extent that it can get in, or it must push the capsule in front of it, and leave a fold of the capsule lying between the head and the bottom of the acetabulum, which, by the way, is often the condition in the bloodless reductions, and this makes the liability to relapse much more likely.

Now, if you will think for a moment of this capsule as it encircles the neck, if the head has passed out at the rear, the opening will have contracted down until it will engage the neck like a pencil would be grasped if pushed through a sheet of rubber. Now, if it can be pushed back through this same opening there will be no need to go below the acetabulum to reduce it, and if it cannot be pushed back through this original opening there must, of necessity, one of two things happen: either this capsule must be torn loose from the original opening down to the point where it is to be introduced into the acetabulum or it must twist itself around the head and be pushed in twists and folds into the acetabulum between it and the head. The more the capsule is torn the weaker the joint will be, and the more likely it will be to slip out. If it is twisted around the head and lies between it and the bottom of the cavity, the more it is filled up the more danger there will be of relapse.

For these reasons I oppose his methods in toto.

As I have said before, in suitable cases the bloodless method, as I now feel, should be the method of choice, but there comes to us cases that are unsuitable, either on account of age or other conditions, and some other method must be employed. Now, in these cases I want to put myself on record as favoring the method of Dr. Harry Sherman, of San Francisco. That method, as I remember it from his description, not having been fortunate enough to see him do the operation and only having an opportunity to examine a few that had already been done and were still in bed, is the simplest, and I believe from the standpoint of safety is the best, and is the one also most likely to accomplish the most good for the patient. This is done as follows: He makes an incision from above directly down over the trochanter. Then finding the opening through which the head of the bone emerges, enlarges that, replaces the bone, stitches up the capsule, and closes the external wound. The leg is then put up in plaster in abduction, and the operation is complete. This seems to me to be the easiest and best method for the open operation, but each case must be a law unto itself, and, do the best we can, we are sure to have some relapses, and, more than likely, sooner or later, some bad results. If in the total we can get from 50 to 65 per cent of good results, including the anatomically perfect and the functionally perfect, we should feel well satisfied.

SANMETTO IN NEURASTHENIA FROM OVERWORK IN INTELLECTUAL LINES

I have found Sanmetto useful in several cases of neurasthenia from overwork in intellectual lines, without being associated with sexual irritations or excesses. In those cases where it seemed to do the most good there was depression of energy, consequent upon exhaustion of the vital forces. As a tonic in such cases it has proven satisfactory in a number of instances.—M. W. Van Denburg, M. D., Mount Vernon, N. Y.

ST. BARNABAS HOSPITAL

MINNEAPOLIS

OBSTRUCTED PYLORUS DUE TO ADHESIONS FROM A CHOLECYSTITIS

IN THE SERVICE OF DR. KNUT HOEG

Mrs. Louise J——, aged 39. Seen June 1, 1905. Has six children, oldest 15 years of age; youngest 2½ years. Has not been pregnant since the birth of this child. Since youth she has been subject to digestive disturbances, consisting of distress after eating many kinds of food, and a tendency to constipation. Since last fall she has suffered much from pyrrhosis, and vomiting of very sour stomach contents. She comes in fact to be cured of "sour stomach," and makes no other complaint. But she admits, upon being questioned, that she has had occasional attacks of severe griping pain in the abdomen, notably one about a year ago, when she woke up with severe pain in the abdomen at 2 o'clock in the morning. This lasted only a couple of hours. She has lately had pains after each meal, but only of a few minutes' duration. She has also become very constipated, so that increasing doses of cathartics had to be employed. She has never been jaundiced, nor has she ever felt any swelling in the abdomen. She claims to have enjoyed good health up to the time of her last child, but to have been weaker since then, and to have lost weight rapidly since midwinter.

She looks very emaciated and pale, but not cachectic. Her lips are purple as from poor circulation and little blood, the air of the room being rather chilly. Her hands are pale and cold; tongue moist, smooth, and shining. The abdomen is flaccid, and the great vessels, as well as the vertebral column, can be easily palpated. A swelling, the size of a hen's egg or less, is felt in the right hypochondrium; it is somewhat sensitive, and movable from side to side, not up and down; no marked tenderness in the epigastrium; none at the base of the appendix.

The stomach is emptied by a tube; foul smelling food remnants are removed; stomach is washed, and she is asked to eat a moderate supper, and to return fasting on the following morning. Before she is dismissed for the day, a complete examination of the organs in the chest, abdomen, and pelvis is made, and no abnormality found.

When, on the next day, she returned fasting, there was yet found remnants of food from the previous evening. After lavage the stomach was inflated with air, and found to be moderately enlarged.

She remains here a few days to enable me to make a diagnosis of the nature of the dilatation and the pyloric constriction. She had daily lavage, which greatly relieved her symptoms, but she lost strength and became very feeble.

After a few days' observation of the case, I thought I had made a diagnosis, and consequently laid out a plan of treatment in the presence of the interns of St. Barnabas hospital, who were informed that I thought there were gall-stones, which had produced a peritonitis in the gall system, and its neighborhood, with the result of adhesions between some parts of the gall system and the pylorus, or perhaps the duodenum. The lump was supposed to be the gall-bladder enveloped in adhesions and inflammatory products. As the current of the gastric contents is interrupted, there is vital indication for its reestablishment.

Operation June 14, at St. Barnabas Hospital. Kehr's "Wellenschnit," that is, an incision from the ensiform process in the linea alba to midway between this process and the navel; then an oblique cut to the right and downwards through the inner two-thirds of the right rectus abdominis muscle; thence perpendicularly downwards to the level of the navel or a little lower.

Prior to the operation the patient's stomach had been washed out. This is always useful for two reasons: in the first place it is well that a patient should have learned the trick of having his or her stomach washed, as it may be indicated as a relief from post-narcotic vomiting; in the next place, where there is a possibility that the intestinal tract may be opened, it is of great importance to have the stomach empty.

After making the incision there was found an inflammatory mass, which represented the lump felt from the outside. This consisted of the gall-bladder united with omentum, and forming a bond of union between the pyloric part of the stomach and the liver. The first object would be to free the stomach from its adhesions, so that it would allow the contents to pass. It was evident that there was a fistulous communication between the gall-bladder and the stomach. It might thus become a question which would be the safer: whether to perform a gastro-enterostomy and leave the gall-bladder, which seemed to have become quiescent and out of function, or to remove the gall-bladder and sew up the trimmed edges of the ulcerating communication between the gall-bladder and the pylorus. The latter course was selected.

The gall-bladder was first dissected out from the liver, to which its fundus had become attached; in this dissection it was found that the gall-bladder harbored several stones, which had ulcerated through its walls into the under substance of the liver, as well as into the stomach. The neck of the gall-bladder was comparatively free, and so was the cystic duct. No stones were found in the cystic nor in the common duct. The cystic artery and two other small arteries in that neighborhood were tied; as was the duct about 1 centimeter from the neck of the gall-bladder.

After the gall-bladder had been freed from above, the adhesions with the stomach were separated; aseptic pads were placed under the stomach and the vesica, and the separation took place without getting the stomach contents into the peritoneum. The ulcer resulting from the separation of the gall-bladder was roundish, and after the ragged edges had been trimmed, was 2 to 2½ inches in diameter. There was, however, no difficulty in bringing the edges together by sutures. The omentum which had been adherent to the gall-bladder was red, thickened, and shrunken; a good-sized piece of it was resected.

After the stomach and liver had been freed by removal of the gall-bladder, they were easily separated from each other, and no probability of their reunion seemed to be present.

Several tampons were inserted; one in front and one behind near the duct; one larger on the under surface of the liver; none towards the sutured place of the stomach. These tampons as well as the silk ligatures were led out at the middle of the wound, the upper and lower parts of which were sutured.

The patient rallied well from the operation, although very much exhausted. For several days there was no fever; then on the fifth day some rise of temperature which necessitated revision of the wound. Stitch abscesses were found. These were laid open and dressed with wet compresses. The ninth day after the operation the tampons were removed. The rather large cavity left after their removal healed slowly and without any untoward symptoms, so that the patient could sit up in bed on July 4th. Sat up in a chair the 6th, walked across the floor the 8th and went home cured July 17th.

UNIVERSITY FREE DISPENSARY

MINNEAPOLIS

AMEBIC DYSENTERY

In the Service of Dr. W. H. Aurand

Mr. N. P——, widower, aged 44, nationality French. He came to Dr. Head's clinic at the Free Dispensary, February 20th, complaining of diarrhea with bloody stools. The following history was elicited: While working in the "A" mill in this city a year ago last fall, the attack began with two to four yellowish watery stools a day. No blood was observed at this time, and no pain. After he had been afflicted three or four days he was compelled to stop work because of annoyance of frequent stools. About a month later the stools were more frequent, being at times twelve to fifteen a day, and four or five at night, with still no pain and no blood.

Late in the fall he went to work in an electric-light plant at St. Anthony Park. This was the latter part of November. At this time he was being treated without benefit, and the diarrhea continued. In December blood was noticed in the stools for the first time, and the patient went to a pinery where he worked all winter, with his diarrhea persisting, but still he had no pain. At this time blood was slight, but present with every stool.

He came back to Minneapolis in March, and worked all summer in the St. Louis railway shops. At this time he began to lose considerable in weight, and felt very weak. At times he was feverish, but had no chills. At this time, February 20th, 1905, and for the last month, he has had pain in the lower lumbar and sacral region continuously. Stools now are twelve to fifteen a day, and four or five at night, watery, bloody, and contain considerable mucus.

His family history is negative, and previous history uneventful except as to his residence, having never been south. He came to Massachusetts from Canada when 13 years old, worked in a cotton factory four or five years, moved back to Canada, where he remained till coming to Minneapolis four or five years later, where he has since lived. At the time when the attack began he lived near the "A" mill in southeast Minneapolis, and used spring-water from an electric-light plant at home and well-water at the mill. No other member of his family, nor other workmen, to his knowledge, had diarrhea.

The physical examination showed the lungs, liver, and spleen normal, and nothing abnormal in the rectum. There was no glandular enlargement. Blood findings showed leucocytes 9,000; red-blood cells about 4,000,000. Examination of stools under microscope showed ameba in large numbers, and these I demonstrated to the students at the patient's first visit.

This case is interesting enough to deserve reporting, from the fact that the patient had never been in the south.

This is the second case of amebic dysentery to appear at the University Dispensary during the last year.

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THE CURE OF EPIDEMICS BY DRUGS

Dr. R. B. Leach, a homeopathic physician of St. Paul, who graduated from Dartmouth College in 1883, passed our State Board examinations in 1897, is president of the St. Paul Society of Homeopathic Medicine and Surgery, medical examiner of the Royal League and Modern Samaritans, has gone to New Orleans to immunize the citizens of that city from yellow fever by a process of arsenization. The dose of arsenic advised by the celebrated physician is one one-hundredth of a grain three times a day. As a result of much advertising the demand for arsenic tablets has reached the hundreds of thousands, which suggests that trituration by well known homeopathic methods is still among the possibilities.

For some strange reason the large county and city medical society of New Orleans does not take kindly to the doctor's suggestions, but spend their time and efforts in attempting to isolate the cases, and stamp out the epidemic by precautionary means. When such a simple antidote as arsenic is at hand why should the government, the city health department, and the individual physician concern himself about the outbreak of new foci? Strange, too, that so sure a remedy against a yellow-fever epidemic should be so long neglected! Why was it not used in Cuba? Did General Wood not know of the remedy? If not, why not? It is not taught in our text-books? Does the patient become so thoroughly saturated with arsenic that the mosquito is poisoned before he can inject the yellow-fever bacillus into his victim? What scientific explanation has been offered?

Dr. Leach has offered to allow the bacillus-bearing mosquito to bite him several times, in order to prove his theory, and yet the medical profession hesitates! Does it fear Dr. Leach may die from exposure, or is it magnanimous and far-sighted in its efforts to save even Dr. Leach?

Jealousy is the only cause Dr. Leach can find. He has a great theory, and the New Orleans physicians are so narrow-minded that they envy ...s timely suggestions. The public is holding its breath waiting for the mosquito to light on Dr. Leach. To make the doctor thoroughly at home, and to prove their faith in his theory, several prominent citizens have endeavored to help Dr. Leach carry out his tests, but at this time no competent observers have been secured. If Dr. Leach stays in New Orleans long enough the epidemic may subside, then the doctor can return to his practice in St. Paul. It is a great thing to have one's name in the newspapers as the exploiter of a remedy, a drug remedy, for an epidemic.

In the meantime typhoid fever is raging in Brooklyn, New York, Winnipeg and other large cities. If arsenic is good for the extermination of yellow fever, why not for typhoid? The thing ought to be tried. If any old or new drug is applicable to an epidemic, now is the opportunity. It might at least improve the complexion of the individual, and the street and health departments could easily better the complexion of most of the city streets and drains, then perhaps the entire complexion of the county would improve. There is nothing like arsenic, isolation, and cleanliness to stamp out an epidemic. On second thought, perhaps the arsenic might be left out, and used only for the tablet men to sell.

THE DEEP REFLEXES

The principal deep reflex with which physicians are familiar is the knee-jerk. For years it has been regarded as an index of the condition of the spinal cord. The reflex arc in the cord was supposed to be the mechanism which presided over the knee-jerk. If the reflex was absent it was assumed that the arc was involved by a disease process, notably tabes. If the knee-jerk was exaggerated the pyramidal tracts in the cord were the seat of the disease, that is, the beginning degeneration or irritability of the pyramidal tract accounted for the exaggerated knee-jerk.

These two tracts in the cord with the loss or increase of knee-jerks were often the only tracts considered in the examination and diagnosis of the case. The result of this reasoning led to many erroneous diagnoses.

For some time neurologists have recognized the influence of the cerebrum on the deep reflexes, an inhibitive function of the higher path. In many cerebral diseases and in many of the so-called psychopatic states, the reflexes have been

found abnormal. A neurotic subject laboring under mental excitement frequently displays an exaggerated knee-jerk. Occasionally the reverse is true, and an individual suffering from a temporary excitement has no knee-jerks that can be demonstrated until the nervous system resumes its normal conditions. It is also true that cerebral disease alone, without the involvement of the spinal cord, may alter the deep reflexes.

This suggestion has been emphasized by the investigations of G. L, Walton, M. D., and W. E. Paul, M. D., of Boston, in a paper on "Brain Tumors: A Study of Clinical and Post-Mortem Records Bearing on their Operability and their Symptomatology," in the August number of the Journal of Nervous and Mental Disease. Here are recorded cases of brain tumors in which the destruction of pathways in the brain were rapid and complete, a loss of knee-jerk apparently not always to be explained by the co-existence of spinal lesion.

Where the brain tumor is so located as to cause a paralysis of the opposite side of the body, the reflex may be lessened or lost. In the early history of cerebral hemorrhage there is not infrequently a temporary loss of knee-jerk. In some cases where there is increased pressure from an excess of cerebrospinal fluid the deep reflexes may be lost, but may return or be exaggerated after lumbar puncture.

The suggestion is an important one, and will direct attention to more complete and careful observation of the reflexes, in order to determine the location of the cerebral disease and the periods in which the reflexes are diminished or exaggerated. There are altogether too many cases of tabes diagnosticated by careless observers. Irregular practitioners make a snap diagnosis of locomotor ataxia, either from gross ignorance or from direct attempts to mislead patients with a promise of cure. The question of cause does not enter into their speculations, for they have no knowledge of the combination of nervous mechanism.

The regular practitioner is willing and anxious to be correctly informed as to the causes of symptoms. A careful study of the physiology of the nervous system will determine the value of the reflexes, and will assist in the differentiation of peripheral, spinal, and cerebral lesions.

THE UTAH TRANSACTIONS

Most of this issue of The Lancet is given up to the report of the annual meeting of the Utah State Medical Association. We think our readers cannot fail to find much of interest in the topics that come before a sister state association, and not a little interest in the topics that do not come up to trouble the souls of our fellow mortals in the profession elsewhere.

It is evident there are some knotty problems connected with the membership of our state and national associations, and not a few in the subject of ethics, but we feel confident that all of these problems will be solved without serious difficulty in any county or state organization. If our brethren will just postpone the discussion of some of them to the annual banquet or smoker, whether given gratis by the Metropolitan society or as a "Dutch treat" by the State association, we feel sure the new order of things in our medical organization will be productive of good.

We cannot but express some apprehension about the House of Delegates, which is in constant danger of becoming a mere debating society, where simply the science or pyrotechnics of debate is learned.

REPORTS OF SOCIETIES

UTAH STATE MEDICAL ASSOCIATION—ELEVENTH ANNUAL MEETING — SALT LAKE CITY, UTAH, MAY 9 AND 10, 1905

Tuesday Morning Session—May 9th

The Eleventh Annual Meeting of The Utah State Medical Association was held at Salt Lake City, Utah, May 9 and 10, 1905. The meeting was called to order by the president, Dr. Philo E. Jones, at 11 o'clock on the morning of the 9th of May.

Dr. Steele Bailey, ex-president of the Kentucky State Medical Association, was present, and invited by the chair to take a seat on the rostrum.

The regular order of business, as announced in the program, was then taken up.

The report of the Committee on Arrangements was called for. The chairman being absent, no report was submitted.

The chair stated that as this committee's report would be of a business character, the chairman being absent, the report would be presented before the house of delegates at the meeting of that body at 1 p. m.

No report was made by any of the standing committees.

The report of the Committee on Necrology was read by Dr. A. C. Ewing, its chairman. The text thereof is hereto appended, which reads as follows:

REPORT OF COMMITTEE ON NECROLOGY

It is to be regretted that in all societies a committee on necrology is necessary. In this instance your committee hoped they would have no report to make; but in looking over the records of death during the past year the names of Dr. R. M. Rogers, of Pleasant Grove, Utah, and Dr. M. W. Coffman, of Loveland, Colo., are found among the list of the dead. It was not our pleasure to know either of them, but enough is known to be assured of their good standing in the great medical profession. Peace to their ashes!

A. C. Ewing,
J. S. Gordon,
Frederick Clift.

No reports were made by any of the following committees: Special Committees, Members by Invitation, Report of Delegates, there being no report to make, or the chairman being absent pro tem.

ROLL CALL

Dr. Ellerbeck made a motion that the register of members, as signed, be accepted in lieu of the regular roll call. The motion was seconded and carried.

The minutes of the last annual meeting of the Association, held in the city of Ogden, were then read by the secretary. A motion by Dr. A. C. Ewing that the minutes be approved and received as read, was carried.

The Chair requested that all in-coming members sign the roll.

There being no unfinished business requiring early attention, the Chair stated that the address of welcome, to have been delivered by Hon. John C. Cutler, governor of Utah, would not be possible, owing to the absence of the governor from the city. The president stated that while a disappointment to all, there was no remedy as Mr. Cutler's presence was urgently required elsewhere.

Dr. S. Ewing was then called upon to take the chair of the presiding officer, while the president, Dr. Philo E. Jones, read his address, entitled "The Family Physician as a Factor in the Tuberculosis Problem, and his Obligations to the State."

The Chair then announced that the work of the first morning session had been completed, closing the proceedings until 2 p. m. Notice was given that a meeting of the House of Delegates would take place at 1 o'clock, promptly, and a request was made that all members thereof be present. The place of meeting was designated as the anteroom of the Council Chamber, to the left.

Members of the Board of Trustees were also requested to be present at a meeting of that body, to occur immediately upon the completion of the work of the House of Delegates, and in the same place, immediately upon the adjournment of the latter.

For the information of all attending members of the regular meeting, Dr. S. Ewing stated that there were two telephones in the anteroom for the use and convenience of the association, namely: 551 Bell, and Independent 2307.

AFTERNOON SESSION

The meeting was duly called to order, President Jones in the chair. A paper, entitled "Posterio-Lateral Sclerosis with Report of Cases," was read by the author, Dr. W. B. Ewing, of Salt Lake City.

The afternoon session was closed by the reading and subsequent discussion of a paper by Dr. A. W. Morton, of San Francisco, the title of his paper being "Spinal Anesthesia."

After the discussion of the paper Dr. Philo E. Jones called upon all those in favor of extending Dr. Morton a vote of thanks to rise. The vote was unanimous.

The Chair then stated that the work of the afternoon had been completed; that the evening session would be entered upon at 8 o'clock. All members were requested to be present and to arrive early so as not to retard the work of the evening. It was also announced that the House of Delegates would meet promptly on the following morning at 9 o'clock.

Dr. LaMotte moved that the meeting be adjourned. Carried.

EVENING SESSION

8 p. m. The meeting was called to order by the president, Dr. Philo E. Jones. A series of papers, entitled a "Symposium on Suppurative Processes in the Abdominal Cavity" was presented by the following named gentlemen, viz: Dr. A. C. Behle read "Outline of the Various Forms and Etiology Thereof;" Dr. J. F. Critchlow read the "Pathology" of the above; Dr. E. F. Root read the "Diagnosis" thereof, and Dr. H. D. Niles concluded the symposium with the "Treatment," as indicated in general.

The several papers were read serially; the discussions followed, affording those who responded the opportunity of extending their remarks to the subject as a whole.

Owing to the absence of Dr. S. C. Baldwin, his "Final Report on the Lorenz Operation" was read by title only No discussion followed.

Dr. E. G. Gowans, of Salt Lake City, read a paper on "The Uses and Abuses of Electro-Therapeutics."

WEDNESDAY MORNING SESSION

The regular meeting of the Association was called to order at 10 o'clock.

Dr. Ellerbeck stated that he had received a communication from the secretary of the American Medical Association, the session of which was recently held at Atlantic City, and that this letter embodied several recommendations touching the matter of organization, and for the benefit of those present he read the same.

The president referred the letter to the action of the assembly, stating that the recommendations embraced one in which all were concerned, namely, the changing of the annual meeting from spring to autumn.

Dr. Plummer made the motion that the change be made in accordance with the recommendation of the American Medical Association. The motion was seconded by Dr. Silver.

Dr. Ellerbeck stated that he believed the import of this recommendation was to permit the various State associations to meet before the annual meeting of the Americal Medical Association. He said that the annual meeting of the Utah State Medical Association occurred one month prior to that of the A. M. A., and for that reason did not see why the Utah State Association ought to be required to conform to this recommendation.

Dr. Taylor said that he thought he was, in a measure, responsible for the change having been made from fall to spring; at any rate "I made the motion to that effect and for several reasons, one of which was that we had been holding our annual meeting very nearly at the time of the general "Conference" which is held in this city semi-annually, and it was very difficult to get the Salt Lake members to leave their offices to attend these annual meetings; they remained in the office to help in "shearing the lambs," and many of them were able to reap quite a harvest. Another reason was this, that a paper could be more easily prepared during the winter months, and as the evenings were long and there were fewer outside attractions, it gave more time to prepare papers for the spring term; whereas during the summer months there were a great many excursions and people liked to get away from the city and its excessive heat, and there were so many other forms of attractions and diversions that papers were neglected, and it was for these reasons that I recommended the change, although, for my part, I should be pleased to conform to the recommendations of the A. M. A., as we are an integral part of it; still I think the spring months better for us."

The motion was then put by the presiding officer, a viva voce vote being taken to determine the consent or refusal of the Association to change the annual meeting from the spring to the fall months.

The motion was lost.

The Report of the House of Delegates was not ready for presentation and was temporarily passed over

There being no special business requiring attention, and nothing of a miscellaneous character to occupy the attention of the Association, the regular program of the session was taken up. The symposium on "Pneumonia" was taken up, and the following papers were read:

1. "Etiology and Pathology," by Dr. J. W. Aird.
2. "Symotomatology and Diagnosis," by Dr. F. H. Raley.
3 "General Treatment," by Dr. C. M. Wilson.
4. "Surgical Complications and their Treatment," by Dr. S. H. Allen. Read by title.

WEDNESDAY AFTERNOON SESSION

The final session of the Association convened at 2:15 p. m. Wednesday, May 10, 1905, Dr. Philo E. Jones presiding.

The report of the House of Delegates was read by Dr. W. S. Ellerbeck.

The president called for the action taken on the amendment, touching the matter of banquets. This was read by the secretary.

Dr. S. Ewing submitted the motion that this question be laid on the table indefinitely, stating at the same time as explanatory of his attitude that he did not think the State Association should voice itself upon a matter that could not properly be considered by it. He said that the A. M. A. did not banquet us when we attended its meetings, but that the A. M. A. banqueted itself; yet they raised over $20,000 to entertain us. They gave us car rides and showed us every courtesy and attention that they could, but, he said, the case was not a parallel one with that under consideration. The Utah State Medical Association should not undertake to limit or restrict or say just what and what not the Salt Lake County Society should or could do. It as a body had no right to dictate in a matter of the kind, and the State Society should not undertake to vote on what they should accept in the way of favors from us, the Salt Lake County Society. Next year we shall meet again, and according to the act contemplated we would take them out to the lake and give them a bath, which they don't generally get (laughter); get them filled up with salt water; and if we vote this motion we shall then have no right to say, "Come, take a cigar with us; it is a prosperous year and we can afford it." Therefore, Mr. President, I do think that we ought to lay that motion on the table, and we will say no more about a banquet, but if the Salt Lake County Society wants to say to you, "Come, let us give you a little banquet," we hope you will accept it, and that's all.

Dr. Fisher pursues the subject further: This matter has been threshed over and over, time and again. I should certainly feel ashamed to think that the Salt Lake County Society could not afford the paltry sum of a few dollars in these hard times, and could not afford a little entertainment to our brethren when they come to meet with us once a year; while here they are our guests, and if it is our pleasure to give them a little banquet or provide other forms of entertainment, I don't think any one ought to object to that. The city of Portland raised $25,000 to entertain the visiting medical friends, and I think we can afford the insignificant amount of a few dollars without all this argument pro and con. I think it is a disgrace that this matter should have ever been brought up, and particularly so that it makes its appearance every year. It was decided at the county medical society that we should be only too glad to do this for the entertainment of our visiting friends; and I am positive that this Association has no right to vote on a matter of this kind at all. It is a contemptible thing from beginning to end, and, to say the least, I consider it a discourtesy to discuss it here.

Dr. Critchlow replies as follows: I would like to say at the outset that I never heard until it was suggested this morning, that it would be a proper thing to consider on the floor of this Association. The attitude assumed by some of the gentlemen seems to me to be a totally wrong one. I believe that my ideas of courtesy are as well developed as those of the average person, and far be it from me to give offense in any manner whatsoever to our visiting members. In making that motion, or rather in introducing it this morning, it was expressly stipulated that this particular banquet be given as heretofore, but that in the future a suitable assessment be made so as to allow of the Association banqueting itself. The idea of our not being willing and financially able to entertain our visiting brothers is perfectly absurd, but when you come to consider the merits of the case, that of showing more courtesy to the outside members than they are permitted or privileged to show in return, it makes a very material difference, and many of the outside members have expressed themselves as being averse to the ancient practice of banqueting them. For instance, we might meet in Provo, and there may be forty of us or more from Salt Lake City, whereas there may be but 8 or 10 actual members residents of Provo, and these 8 or 10 men, if they had to conform to the plan of reciprocation, would be obliged to bear this relatively great expense; and it must be apparent to everyone that it is much easier for us to entertain the out-of-town members than for the physicians of the smaller places to entertain us from a numerical point of view, and the relatively heavy assessment it would entail upon the smaller counties if this plan of reciprocal banquets were carried out. The motion has nothing to do with the methods of the A. M. A. It springs essentially from the idea, and no other, that it is a burden to the outside men to banquet us, and in this sense and this sense only do I want to be understood.

Dr. S. Ewing replied: I maintain, however, that this Association has no right to say that we shall not entertain or banquet them, and I ask for a decision from the chair.

The President: The Chair would rule in that case that the Salt Lake County Society is outside of the jurisdiction of the Utah Association, but the motion before the house, as applied to the resolution from the House of Delegates, the Chair rules that that is in order, and it is for this Association to say whether they wish to banquet themselves or not.

Dr. S. Ewing: But there is a motion before the house that the matter be laid upon the table indefinitely.

The motion was put, and the president stated that he believed the vote was carried affirmatively; but to determine the status of the case he called for a rising vote. The motion to lay the matter on the table indefinitely was carried, and the subject closed.

The Chair called upon the secretary to read the names of applicants for membership. The list was read accordingly, and was approved by the House of Delegates at the final session.

Dr. S. Ewing proposed a motion to the effect that the usual rules be suspended, and that instead of voting upon each individual separately, that the secretary be instructed to cast a vote electing the applicants to membership. The motion was duly seconded by Dr. R. W. Fisher.

Dr. A. C. Ewing stated that he thought a report from the committee ought to be presented, and, when obtained, the rules could then be suspended as embodied in the motion. The president replied that such a report had already been submitted by the committee, and that these names were approved.

A viva voce vote was taken to determine this election. The vote was unanimous that the secretary cast

the electing ballot, admitting the following applicants to full membership:

William J. Bardsley, T. A. Dannenberg, W. Brown Ewing, Jack Hosmer, M. C. Meyers, J. C. Robinson, J. E. Scallon, Charles W. Stewart, E. H. Smith, W. M. Thome.

Dr. Ellerbeck requested that Dr. S. Ewing read Article 10 of the Constitution as revised Constitution and By-Laws, covering the qualifications for membership in general.

This was done as required, and the amendment as suggested by Dr. S. Ewing reads as follows: "The members of the Association coming from districts where no county or district medical society exists shall be graduates of regular or some other reputable medical college; shall hold the certificate of the State Board of Medical Examiners; shall not practice or claim to practice and shall agree not to practice, sectarian medicine, and shall not be affiliated with any sectarian school or society,"—the remainder of the article to be continued in the same language as the original.

Dr. Ellerbeck read aloud the qualifications for membership coming under the caption, "Other Permanent Members," to show wherein the original differed from the amendment offered by Dr. S. Ewing.

When the Chair proceeded to put the question, Dr. Aird inquired whether or not the House of Delegates had the power to alter or amend the Constitution and By-Laws, or whether this power was vested in the General Assembly.

The president replied that the question was really this: Will this body (the Utah State Medical Association) ratify the action of the House of Delegates? The ratification properly comes before the General Assembly.

Dr. Ellerbeck stated that it was his opinion that the ratification of an amendment was an unnecessary action.

Dr. S. Ewing stated that he was not familiar with the ruling in the matter presented by Dr. Aird, but that he was of the opinion that the action of the House of Delegates ended the matter, whatever it might be.

Dr. Wilson submitted that the final action of the House of Delegates was simply deferred, and it was referred to the Association, and that was the conclusion of the whole matter.

Dr. Clift said that he understood that there was no real objection to a man practicing the system of any other school, providing that he complied with certain other requirements and conditions, and he asked as to what these conditions for membership were as regards admission from county to state and from state to the national or American Medical Association. He thought that if there was no conflict in these respects, there ought not to be any valid objection to applicants for membership, although of other schools of medicine.

The president replied that membership in a county or district society was a prerequisite to membership in the State Association, and the members of State Associations were eligible, with the usual provisos, to membership in the American Medical Association, which was throughout a matter of affiliation and association. A physician is eligible to membership in that Association, providing he goes up as a member or delegate from his local society. Now, if the local society admits graduates of the homeopathic or eclectic schools, they are also eligible to membership in the American Association; and the meaning of this amendment is to provide for graduates of other schools than our own, providing such men do not practice sectarianism, and have denounced sectarian dogmas, and that if otherwise worthy and reputable they shall be eligible to membership in this Association (Utah), and the question under consideration now is on the adoption of this amendment to Article 10 of the Constitution.

Dr. Aird: Then it leaves a doctor who is not a graduate of any school ineligible to membership, as I understand it. I think the word "reputable" medical college should be substituted for "regular" medical college; and I think that matter ought to be adjusted in some way before it is submitted to a vote.

The amendment was then submitted to a viva voce vote, and carried.

The presentation and reading of the following papers was then taken up:

1. "Unwarranted Encroachments of the General Practitioner upon the Field of the Eye, Ear, Nose, and Throat Specialists from the Specialists' Standpoint," by Dr. Frederick Stauffer. In the absence of Dr. Stauffer, who had been called out of the city on special business, his paper was read by title only.

2. "What the General Practitioner Should Know about the Specialties," by Dr. L. W. Snow.

3. "The Present Status of Sympathectomy," by Dr. Henry LaMotte.

4. "The Present Status of the Treatment of Prostatic Hypertrophy," by Dr. E. O. Jones.

5. "A Proper Standard for the Qualifications of Midwives," by Dr. H. C. Deane. This paper was read by title only.

6. "The Treatment of Primary and Secondary Syphilis," by H. S. Scott.

Dr. Ellerbeck announced that the committee on new members had held a session, and that Drs. E. D. Hammond, A. J. Stewart and R. A. Brownfield had been reported upon favorably for membership.

Dr. S. Ewing moved that the secretary be instructed to cast a ballot declaring the gentlemen members of the Association. The motion was carried, and the names presented were placed on the roll of members.

Dr. Osgood attempted to introduce a discussion on medical legislation, but this was ruled out as inopportune and out of order. A motion was introduced then by Dr. Osgood looking to an arrangement whereby the osteopathic school would be treated fairly and in a manner creditable to the regular profession, and this he suggested could be done by having an osteopath appointed as one of the members of the State Board of Medical Examiners. The motion was lost.

ELECTION OF OFFICERS

President.—The secretary stated that at the meeting of the House of Delegates the name of Dr. E. F. Root had been presented for president.

The nomination of Dr. Harry D. Niles was made by Dr. Union Worthington, and seconded by Dr. Chas. G. Plummer.

Drs. Scott, Robinson, and Baker were called upon by the president to act as tellers.

The ballot was as follows:

Dr. Root 21, Dr. Niles 13.

Dr. Worthington moved that the election of Dr. E. F. Root, as president for the ensuing year, be made unanimous. The same was duly seconded, and carried.

For First Vice-President.—The name of Dr. C. F. Osgood was presented at the meeting of the House of Delegates for first vice-president. Dr. LaMotte moved that the nominations be closed, and the secretary instructed to cast a ballot declaring Dr. Osgood first vice-president. The motion was carried.

Second Vice-President.—Upon motion, made by Dr. Plummer, the plan of election as adopted in the preceding election was made effective, and Dr. A. Rauscher was declared second vice-president. He was then declared so elected by the chair.

Secretary.—Dr. Plummer moved that the secretary be re-elected, and that the president be asked to cast the ballot. The motion was duly seconded, and carried.

Treasurer.—Dr. Ellerbeck offered the following motion, namely, that the present holder of the office, Dr. J.

N. Harrison, be elected to hold his office for another term. The motion was seconded and carried.

Delegates to the American Medical Association, to serve two years.—The names of Drs. Philo E. Jones, as delegate, and Skeene, Taylor, and Baker, as alternates, were presented, the same being nominated at the meeting of the House of Delegates. A motion was duly made and seconded, electing these gentlemen as delegates and alternates to the American Medical Association. The motion was carried.

Three members of the Board of Trustees.—The names of Drs. Taylor, Rich, and C. F. Wilcox were presented. A motion was made and seconded that the secretary be instructed to cast a ballot declaring these gentlemen duly elected as members of the Board of Trustees. Carried.

REMARKS BY THE RETIRING PRESIDENT

Dr. Philo E. Jones said: Gentlemen of the Utah State Medical Association:

Our labors are now at an end, and we shall soon have something other than labors to participate in. In retiring from the office to which you have seen fit to elect me, in retiring from this honorable position in which you have placed me, I am unable to express my appreciation of this honor, and shall not attempt any extended remarks. I will request ex-President Dr. Baker and also Dr Worthington to escort our newly elected president to the chair.

Dr. Root was conducted to the station of president.

In a few brief words Dr. Root stated that he hardly thought the present occasion one for the making of an extended speech; that he thoroughly appreciated the position of honor to which he had attained, and was heartily thankful for the honor thus shown; that his name had been presented before as eligible, or as a candidate, and that the Association he felt acted wisely in giving it to the man they considered most worthy of the office; that it finally came to him, and that in return for the honor shown him, he would do all in his power to further the interests of the Association at all times; and in undertaking the work that would come to him, he trusted that he would not be alone, but he would receive the support and co-operation of every member of the Association.

A motion to adjourn was made by Dr. Worthington.

The meeting adjourned.

MEETING OF THE HOUSE OF DELEGATES

The regular annual meeting of the House of Delegates was called to order by the chairman, Dr. Philo E. Jones.

A motion by Dr. Harrison was made and carried, as follows: That all new members of the Association who have paid in more than $5.00 shall be credited with the excess, the same to apply on future annual dues.

Immediately prior to this motion, a motion was made and carried that the admission fee and annual dues for the first year be reduced from $8 to $5.

The matter of recognition of county and other societies then came up for discussion. Dr. Harrison stated that the members of the Northern Utah Medical Society claimed that that association embraced all the northern counties of the state, and as such thought it should be recognized.

Dr. Jones stated that this matter came up at the last annual meeting in Ogden, and that whatever differences or misunderstandings existed was considered a matter to be settled among themselves. This had been done, and there could be no valid reason for refusing recognition of the Northern Utah Society, but that it would have to be designated as a *society* and not as an *association*, so as not to conflict with the name adopted by the state organization, which was changed to that of *association*.

Dr. Plummer said that in regard to the name adopted by the State Association, the constitution uses the words *society* and *association*, and asked to learn whether the state body was incorporated as associaor society. Dr. Jones replied that the incorporation was made under the title of association, and the constitution says we shall be called the "Utah State Medical Association," but whether or not the articles of incorporation were ever amended or not he did not know. This discussion continued informally somewhat at length, whereupon Dr. Plummer offered the motion that the secretary of the Association be instructed to inspect the records and printed articles of incorporation, and change the wording where necessary to embrace the designation of this body as "association." The motion was seconded by Dr. P. E. Jones, and carried.

Dr. Lyons read from the constitution and by-laws a clause requiring that the treasurer's report be properly audited before the same is submitted for approval. Dr. Ellerbeck presented a motion, dispensing with this requirement, for the purpose of expediting matters, and offered the same as a motion, providing the chairman of the Board of Trustees consented to its presentation. The motion was carried.

The treasurer's report was then presented by Dr. J. N. Harrison.

REPORT OF TREASURER OF THE UTAH STATE MEDICAL ASSOCIATION FOR THE YEAR 1905

The receipts and disbursements are respectfully submitted as follows:

To balance on hand as reported at last meeting		$376.55
Collected at last meeting after report was made.		285.00
Total receipts		$661.55
Disbursements up to May 9, 1905:—		
1904.		
May 24.	Miss E. C. Erb, Ogden, stenographic report of the proceedings 1904 meeting	$25.00
June 1.	W. S. Ellerbeck, services rendered the association as secretary	50.00
June 1.	W. S. Ellerbeck, long distance telephone	1.00
June 2.	W. F. Gardner Co., letter-heads and programs	18.50
June 2.	Geo. A. Lowe Co., janitor services	5.00
Sept. 20.	P. Schulte, stenographic work	6.95
Nov. 2.	F. W. Gardner Co., 250 stamped envelopes for secretary	6.75
December.	Northwestern Lancet for publications	125.10
1905.		
Feb. 2.	P. Schulte, typewriting	7.50
Feb. 28.	F. W. Gardner Co.	10.50
Mch. 6.	Bennett Glass Co., pane of glass for secretary	1.60
Mch. 10.	P. Schulte, typewriting	6.95
Mch. 10.	W. S. Ellerbeck, 250 stamped envelopes	6.75
April—.	P. Schulte, typewriting	9.45
May—.	Stamps for treasurer	4.00
May—.	Bonds for treasurer	5.00
May 8.	P. Schulte, typewriting	7.15
		$297.20
Balance on hand		$364.35

Dr. Plummer moved that the report of the treasurer be adopted. It was duly seconded and the motion prevailed.

REPORT OF THE BOARD OF TRUSTEES

The chairman of the Board of Trustees, Dr. Ira A. E. Lyons, presented his report as follows:

At a called meeting of the Board of Trustees, by the president, Dr. Philo E. Jones, there were present Drs. Philo E. Jones, E. F. Root, R. W. Fisher and I. A. E. Lyons; also, by request, W. S. Ellerbeck and H. LaMotte. Dr. I. A. E. Lyons was elected chairman and Dr. F. Stauffer secretary, Dr. R. W. Fisher secretary pro tem.

The meeting was called to confer upon medical legislation in regard to the medical bill then before the state legislature. It was necessary that the bill be presented in a strong and forcible manner, and Judge King was selected.

We recommend to the House of Delegates that the Judge be recompensed by a fee of $50.00 for his services. Some of you may not know that THE NORTHWESTERN LANCET has been the official organ of the State Medical Association at a cost of $1.00 per number, paid by the Association. The question now is, shall we continue it as such or make some change. We must make some such recommendation to the House of Delegates.

I will make a condensed statement of the duty of the Board:

1. To provide and superintend the publication and distribution of all such proceedings and transactions of the Association in such a manner as may be directed by the House of Delegates.

2. It shall be the further duty of this Board to hold the official bond of the treasurer for the faithful execution of his office, and annually audit his accounts.

3. In the event of a vacancy in the office of treasurer the Board of Trustees shall fill such vacancy ad interim.

Dr. Flood was engaged to take the proceedings of the meeting, and is to receive $25.00 for his services.

The report of the chairman of the Board of Trustees, upon motion duly seconded, was received.

In the matter of remuneration for services rendered by Judge King, in a legal capacity, a fee of $50.00 was allowed. The secretary was accordingly instructed to make settlement thereof by warrant properly drawn. Dr. Jones took occasion to say that Judge King had rendered valuable services and in a very satisfactory manner, and the fee be considered a reasonable remuneration and well-earned.

The matter of the publication of the proceedings of the Association was then brought up for consideration. Dr. Jones presented the subject for consideration—whether or not THE NORTHWESTERN LANCET should be patronized as a proper publication for the printing of the proceedings of the Association. Dr. Ellerbeck inquired as to what provision had been made for the publication of the proceedings in pamphlet form, stating that he thought exchanges should be made with other states, affording a ready means of learning what other associations were doing. Dr. S. Ewing said that he did not see what good could be accomplished by the publication of the proceedings in a medical journal. Journals could not be exchanged with the same facility, and the proceedings would appear with so much other printed matter that no particular attention would be paid to it; whereas the publication of the proceedings in pamphlet form would leave nothing to be desired.

The chair stated that he would entertain a motion disposing of the matter in the best manner. Whereupon Dr. S. Ewing offered the motion that we do not employ THE NORTHWESTERN LANCET, or any other medical journal, to publish our papers and transactions for the ensuing year. Dr. Plummer asked that provision he proposed to offer in place of the journal. Dr. Ewing replied that he would recommend the publication of the proceedings in pamphlet form.

Dr. Harrison stated that he believed these proceedings had been published in pamphlet form in former years. As well as he could recall they were published in such form during the two years immediately preceding the use of THE LANCET. Dr. Plummer replied that they were published, as stated, in pamphlet form, but that the cost of doing so was materially greater than using THE LANCET—something in the neighborhood of $300 for each issue in pamphlet form. Dr. Harrison stated that he was under the impression that the first hundred copies cost only $100, and for every 50 copies, additional, a charge of $25 extra was made. When he was secretary of the Association he sent out pamphlets to nearly every state in the union, and also received exchanges. He was able to recall that in one or two instances requests were received for copies of our transactions—from Massachusetts and Rhode Island. Some of the state societies, he thought, took an active interest in these proceedings, and he believed that they should be generally supplied, and exchanges made with other states. Missouri, Iowa, Texas, and other states issued such proceedings, and in a very complete and elaborate form; and he thought that the Utah State Medical Association should take enough pride in its work as other states, and could afford to publish its proceedings in similar form.

Dr. S. Ewing said that in making the motion he had in mind the ability of the Assocation to afford the expense of getting out its printed matter in pamphlet form, as in any other form it would have but little if any value at all. He said that he made the motion also with a view to the preservation of the proceedings as valuable records of the work done by the Association; that they could be better preserved in pamphlet form; that if published in a medical journal they would be spread out throughout the course of a year or so, and difficult to refer to. They would, therefore, be of no available use to the association or any one else; furthermore, it would be interesting to exchange with other states, and this could be done if put in pamphlet form; that other societies using the journal plan would have their proceedings published simultaneously, and that it would string out these records in such a way as to preclude any ready access to them whatsoever. If the Association could not afford to get out these proceedings in pamphlet form, he thought it best to allow the matter to lay over.

Dr. Philo E. Jones replied that, as well as he could remember, the secretary and president of the Association were instructed to take this matter up, ascertain all that could be learned as to the best mode of publication, and to secure the best possible terms that they could. The secretary entered into correspondence with divers medical journals in neighboring states, as far east as the Mississippi Valley, and west to the Pacific coast. The terms by THE NORTHWESTERN LANCET were by all odds the best received, and the lowest of any submitted by journals published in the west, taking into consideration the value of the journal itself. So we, as the Publication Committee, gave the publication of our transactions to THE NORTHWESTERN LANCET, at the rate of $1.00 per copy. Now the matter, as I understand it, and as discussed by Drs. Harrison and Ewing, is that we publish our transactions in pamphlet form. I heartily agree with them. I would like a copy of all proceedings myself; and I think we should have them in such form that copies could be sent to other societies and exchanges be made. As Colorado publishes its proceedings in a bound volume, and at, I think, $2.00 per copy, I think that it would be a good idea to have our transactions published in the journal, as we have done every two weeks, and as all this matter is set up in type, we can easily get, say, fifty or more copies, as we may see fit, made up from the type already set up; and thus we would be able to have our proceedings in pamph-

let form by making such an arrangement, and I do not think the expense of this, additional, ought to amount to more than 20 or 25 cents per copy; and I believe the Association would heartily favor this additional expense. I would suggest, then, that this matter be left with the incoming president and secretary, for them to make the best terms obtainable, carrying out this idea. The chair stated that he would entertain such a motion embodying this plan of procedure.

Dr. Lyons presented the motion, embodying the plan outlined by Dr. Jones, that the publication of the proceedings be left to the incoming president and secretary; that in addition to the publication of the proceedings in the journal, provision be made by them for the publication of the same in pamphlet form; and that the incoming president and secretary be authorized to secure the best terms for publication in this manner.

Dr. S. Ewing accepted this modification as an amendment to the original motion.

The motion as stated by the chair is, then, that, in making provision for the publication of our transactions for the coming year, it is understood that the publication of our papers and proceedings be continued in THE NORTHWESTERN LANCET; and that in addition to the publication of these papers and transactions in that journal, we are to have them published also in pamphlet form, so that the members of this Association may each have a copy of them in pamphlet form, and a sufficient number of copies additional for exchanges; and the question now before the house embodies the continuing of the publication of our proceedings in THE NORTHWESTERN LANCET for the coming year, leaving to the incoming president and secretary the matter of arranging for the publication of these transactions in pamphlet form, as already stated.

This motion prevailed.

Dr. S. Ewing stated that he thought 200 copies would be amply sufficient to cover all these requirements.

Dr. Lyons stated that he had engaged the services of T. A. Flood to make a typewritten transcript from stenographic notes of the complete proceedings, and that the remuneration therefor would be $25, which was agreed to and passed.

Dr. Critchlow, chairman of the Executive Committee, stated that no slight was intended or implied in the matter of the preparation and presentation of papers to be read at the annual meeting. He hoped that those not called upon for papers would so consider it, and those that were requested to prepare papers he thought were fully competent to do so, and gave their consent without being pressed to do so. He hoped that no discourtesy could be attached to the omission of many names quite as competent to present papers as good as those prepared.

The meeting of the House of Delegates was duly adjourned until 9 a. m. of the following day.

WEDNESDAY'S SESSION

The meeting of the House of Delegates was called to order at 9 a. m. by Dr. Philo E. Jones.

The first matter brought to the attention of the Board was that presented by Drs. Ellerbeck and Skeene, which, in substance, is stated in the following brief remarks, viz: "Some weeks ago a number of the physicians of Ogden issued a call and endeavored therein to remove any shadow of antagonism existing between members of the respective societies involved, and it was stated that an organization had been effected and a constitution adopted, and the same was presented to all members for their signatures."

Dr. Skeene stated that he entered as a charter member, and that all but two physicians had signed the paper, one of the objections being that one member declined to do so on a point embodying the question of membership. The constitution provides that any regularly licensed physician in good standing is eligible for membership, and may become a member thereof by signing the charter. This objection was made on the ground that this would admit members of other schools than the regular. Now, the only question that concerns the State Association is its recognition of this society, and what effect it would have on members failing or refusing to join the local society. In what manner would this be regarded by the State Association. The doctor stated that the name selected was the same as that adopted, viz., the "Ogden Medical Society." Both of the former societies of which it is a union still exist at present, inasmuch as there has been no disorganization or dissolution of the same. This is an active body, holding regular sessions, whereas neither of the original component societies has held any meetings within a year.

Dr. Skeene presented the matter for proper action.

Dr. Ewing stated that, in his opinion, the proper way to bring this matter before the House of Delegates would be to propose the "Ogden Medical Society" as a component branch of the Utah State Medical Association, so as to legally recognize it. This was presented by Dr. Ewing, and embodied in the form of a motion, which was promptly seconded.

Dr. Jones explained that the Ogden Medical Society included members of more than one county, in fact it included all the northern counties of the state, and he asked Dr. Skeene if it was not a fact that the Weber Medical Society also included two or three societies, and whether or not all the members of the Weber Society had become affiliated with the new society known as the Ogden Medical Society. Dr. Skeene replied that the former president of one of the other societies is the present president of the Ogden society, and that the Weber society is now virtually disorganized. Dr. Jones then called for a vote, the question being whether or not the Utah State Medical Association should recognize the Ogden Medical Society, as now organized, Whereupon the motion was duly carried.

Dr. W. S. Ellerbeck introduced a matter relative to membership, and he stated that he would give notice of a motion to the effect that membership in some county society be essential as a requirement to admission into the State Association, and that each member be assessed a like amount, part of which should go to the County and part to the State Association.

The report of the Committee on New Members was temporarily laid over, as was the report of the Committee on Medical Legislation.

A bill for janitor services was presented by Dan Parker. The same was approved, and the treasurer was ordered to draw a warrant for the amount allowed.

The president announced that the nomination of candidates for officers for the ensuing year would be heard.

ELECTION OF OFFICERS

Dr. Osgood nominated Dr. E. F. Root for president, and the motion was seconded by Dr. J. N. Harrison.

Dr. Ellerbeck stated that nominations might be made on the floor at the general meeting.

Dr. E. S. Jones moved that the nominations be closed for the office of president. Carried.

Dr. Ellerbeck presented the name of Dr. Fred Taylor, of Provo, for vice-president. The motion was seconded by Dr. Lyons. The nomination was declined by Dr. Taylor for the reason that he had once before been honored by that position, and he felt that others should be given preference. His name was accordingly withdrawn.

Dr. S. Ewing then nominated Dr. Osgood for the office of first vice-president. The nomination was seconded by Dr. Ellerbeck, and was carried.

Dr. Lyons presented the name of Dr. Rauscher. The motion was seconded by Dr. E. S. Jones, and carried.

The name of Dr. W. S. Ellerbeck was presented as nominee for the office of secretary, to succeed himself. Carried.

Dr. S. Ewing nominated the present incumbent, Dr. J. N. Harrison, to succeed himself as treasurer. Carried

Nominations to fill the vacancies of the three retiring members of the Board of Trustees, namely: Drs. F. Stauffer, E. F. Root, and R. W. Fisher, who completed their term of office for one year, ending 1905, were called for.

The name of Dr. Fred Taylor was presented by Dr. Lyons.

Dr. Harrison nominated Dr. C. F. Wilcox, and Dr. Taylor proposed the name of Dr. Ezra C. Rich, of Ogden. Dr. Ewing moved that the nominations be closed. The motion was seconded by Dr. Lyons, carried.

ELECTION OF COMMITTEES

Three names were called for to serve as the Judicial Council for a period of three years.

Dr. Harrison proposed the name of Dr. F. H. Raley. Dr. Taylor proposed Dr. George E. Robinson, of Provo, and Dr. —— nominated Dr. R. W. Fisher. Whereupon the nominations were closed. The nominations were all carried, without a dissenting voice.

Dr. W. S. Ellerbeck proposed the names of Drs. Union Worthington, J. F. Critchlow, and S. Ewing for the Committee on Transportation. The motion was seconded, and duly carried.

PLACE FOR NEXT ANNUAL MEETING

Dr. S. Ewing moved that the place for the next annual meeting of the Association be Salt Lake City. The motion was duly seconded and prevailed.

The Chair called for the report of Committee on New Members. Dr. Aird stated that he was a member of the committee, but not its chairman; that he had looked over the list of names, however, and believed that all the applicants were eligible to membership. Dr. Taylor said that it might be well to pass on all names known to the members of the House of Delegates, and also those that the committee had passed upon favorably, so far as it had been able to proceed, any other names that may appear on the roll of applicants to be acted upon later.

Dr. Harrison, treasurer, was called upon to read the names of applicants for membership. The following were read:

Dr. E. K. Ward, Dr. W. Brown Ewing, Dr. J. C. Robinson, Dr. J. E. Scallow, Dr. C. W. Stewart, Dr. W. J. Bardsley, Dr. A. Jackson Hosmer, Dr. T. A. Dannenberg, Dr W. M. Thome.

Dr. Aird suggested that the Board act as a committee and pass upon the names presented. Dr. Jones replied that he considered the House justified in assuming this prerogative.

The list of names as read was submitted to regular vote, and all were duly declared elected to membership in the Association.

Dr. Critchlow stated that the Executive Committee had decided to allow each member of the State Medical Association to pay his banquet fee, when such occasions arise, and that each man be charged a certain definite sum, but that the rule should not apply at this particular time, and should not become operative until the next annual banquet, a year hence. He gave as a reason for this action the hardship that would otherwise be entailed upon the smaller societies when meetings were held in places outside of Salt Lake City, and that the sense of the meeting be that every member be assessed a certain amount to defray the cost of such banquets.

The motion was seconded by Dr. C. M. Wilson.

The question being before the house, Dr. S. Ewing proposed as an amendment to the original motion, that when meetings were held in Salt Lake City, the Salt Lake County Society banquet the visiting members of the Association. He thought that the Salt Lake County Society would not feel right in conforming to the motion as put, and that it ought to have the privilege of entertaining the visiting members as well as they could, especially in giving "a little bit of a banquet."

Dr. Fred Taylor said that the members of the State Association should banquet themselves. He said he believed this was the rule in other states, or that the required amount be appropriated from the funds in the treasurer's hands out of the county society's proceeds; and personally he could see no reason why the treasury of the State Association could not bear the expense of the State Association's banquet. He was reluctant in accepting courtesies from the Salt Lake County Society, especially since they could not be reciprocated.

Dr. Harrison said that he favored the view taken by Dr. S. Ewing, and for the reason that it was a source of much pleasure in having the members of the State Association, from all quarters, come here and mingle with the city doctors for a few days; that it was a direct loss to these out-of-town members, and they were placed to considerable expense in doing so, year after year; they were away from their work at financial loss; whereas the members residing in Salt Lake City did not have to leave town, and, individually, it was only a pleasure for him to bear his part of this slight additional expense.

Dr. Critchlow replied that if he were placed in the position of the out-of-town members he would feel somewhat sensitive in accepting these courtesies from year to year, and that this would place the outside man in a position in which he could not reciprocate. As some of the out-of-town members had intimated this, he felt it was only right to introduce the matter as he had done, as the only solution for the difficulty.

Dr. Osgood said that he was a member of the Salt Lake County Society, and attended its meetings as often as he could; but after deliberating upon the subject he had come to the conclusion that it would be better for the members of the State Association to banquet themselves, and that he was heartily in favor of the motion as originally presented.

Dr. Rich said that he was sure the Ogden Medical Society would be glad to support Dr. Critchlow's original suggestion, that the State Association banquet itself, by allowing the individual members thereof to bear a per capita assessment.

Dr. Lyons said that every member of the American Medical Association attending any of its meetings was expected to pay his individual share, and there was nothing gratis in the features of its banquets. So far as he was personally concerned he did not object to entertaining the out-of-town members at the expense of the Salt Lake County Society. He reminded those present that any of the members who decided upon attending the meeting at Portland, any of the members of sections of the American Association, would attend its own sectional banquet, and that each member would be required to pay for his own individual plate.

Dr. S. Ewing proposed, as a means of expediting matters, and to determine more fully the attitude of the

State Association towards the banquet question, that the whole matter be referred to the general meeting or assembly, and this motion he offered as a substitute for the original motion of Dr. Critchlow. The motion of Dr. S. Ewing was duly carried, the subject to be taken up on the general floor at a later time.

Dr. Aird inquired as to the disposition of a motion presented by him at the general meeting of the House one year ago, namely, that section 10 of the Constitution be amended, so as to permit any reputable physician, regardless of the school from which he graduated, so long as the school was a reputable one in good standing, to be eligible for membership, providing that such applicants be persons of good moral standing and having qualifications that would entitle them to such affiliation. Dr. Aird said that he presented this in written form at the previous annual meeting, and wished to know whether or not it had ever been acted upon or presented for consideration. Dr. Aird said that he proposed in said motion to strike out the word *regular,* as it appears in the Constitution, and substitute the word *reputable* in its stead, as regards physicians and the colleges from which they were graduated.

The doctor was asked whether colleges so proposed as eligible conform to or be a member of the Association of American Medical Colleges.

Dr. Ewing replied that he was present at the meeting when Dr. Aird presented the motion, and that he (Ewing) gave notice at that time that he would offer an amendment to Dr. Aird's motion. Dr. Ewing then presented a rough draught of the amendment.

Dr. Ewing's amendment reads as follows:

"Every reputable and legally qualified physician residing in the State of Utah, who has or shall hold a certificate from the State Board of Medical Examiners, who does not practice or claim to practice, and agrees not to practice sectarian medicine, and who is not affiliated with a sectarian school or society, shall be eligible for membership."

Dr. Plummer said: "I rise for information. Would it not be true that the basis of membership should depend upon the basis of the American Association of Medical Colleges, which is the standard we are obliged to follow? If we permit the admission of one man to membership, let us assume him to be a homeopath, coming from a certain medical college, let us say it is a reputable college, but does not belong to the Association of American Medical Colleges, we in spirit are violating the laws of the Association of American Medical Colleges, and this draws a line of distinction between two men from the same college, or the graduates of two reputable colleges, one of which is not a member of the Association of American Medical Colleges. I know some county societies are considering the applications for membership by physicians of other schools, and there is a fight on now upon this very point."

Dr. Ewing replied that the American Medical Association adopted a rule exactly similar to the one proposed, and embodied the same in a resolution, admitting any reputable physician, providing he disclaims sectarianism, and is a physician in fact; that such men are eligible, and he did not know of a single society in any state that has not taken this view of the case, so far as he had been able to determine. Both Idaho and Colorado have adopted a plan similar to the one proposed in every feature; so also have Washington and Wisconsin followed, but he did not know of one that admits these men unless they renounce all affiliation with sectarian principles and practice. All we object to is their exclusions and their dogmas; but if they assure us that they are not sectarian in their beliefs and practice, and do not practice such, and will not violate this understanding, we ought to be ready to admit them. He believed that there are homeopaths in this city that are well qualified in every respect, and some of them are even better qualified to practice than graduates of our own school, but unless they renounce their one-sided views, their dogmas, their exclusions, we should not admit them.

Dr. Jones called for a vote on Dr. Ewing's amendment, or rather his amendment to the amendment proposed by Dr. Aird. The amendment proposed by Dr. Ewing was lost.

A vote was then taken on the original amendment proposed by Dr. Aird, the amendment of the Constitution, as amended by Dr. Ewing. The motion was carried.

Dr. Fred Taylor, referring to matters of medical legislation then said: "We have as an organized body (our county medical society) formulated one or two measures that we thought would be helpful to the community at large and to ourselves as well, but we have found our efforts so far futile. So I believe that, as an organization like this has greater weight than a smaller county society, our efforts should center in and emanate from the State Medical Association, and should it be necessary, the president could call the attention of the Association to these matters, that it might use its influence as a unit upon the legislature of our state. Heretofore, we have been unable to get anything through because we have had no combined effort, and I bring this matter to the attention of the House in order that we may act in co-operation so far as the interests of the public and our own are concerned in all matters bearing upon the welfare and health of the community."

Dr. Jones replied that a special committee on legislation had been appointed, and the chair supposed that he had appointed an efficient and reliable committee. While the chairman has not got the committee together to any extent, individually he has been doing good work and considerable of it, but not as a committee. We have the machinery and it must be put in motion. If the committee will act as it is expected to, all these matters can be brought up in proper form, and I believe that I can rely upon the ability of my committee to do this, and upon all matters relating to medical legislation, I believe the committee appointed should act, and that the work should not fall upon this Association as a body.

Dr. Harrison moved that the meeting of the House of Delegates stand adjourned. The meeting was duly adjourned.

The meeting of the House of Delegates was again called to order at 1 p. m. by the president, Dr. Philo E. Jones, who stated that this special meeting was made necessary by an oversight at the morning session of the House. They had neglected to elect a delegate to the American Medical Association, and a first, second, and third alternate to service two years. Nominations were called for.

Dr. S. Ewing put in nomination the name of Dr. Philo E. Jones as delegate. This was seconded by Dr. Critchlow, and no other nominations were proposed.

Three alternates were then elected, as follows:

Dr. Rich proposed the name of Dr. Skeene, of Ogden; this was seconded by Dr. Taylor.

Dr. S. Ewing nominated Dr. Taylor; seconded by Dr. Critchlow.

The last nomination was that of Dr. Baker, of Ogden, which was duly seconded.

These names were balloted upon at once, and the president announced the election of Drs. Baker, Skeene, and Taylor as alternates.

NEWS ITEMS

Dr. Alphonse Cyr has moved from Ghent to Waverly.

Dr. C. E. Gates, State University, '04, has located at Luverne.

Dr. W. S. Anderson, State University, '03, has moved to Kennedy.

Dr. Martin E. Quinn, a homeopathic physician of Spring Valley, died last month.

Dr. Day, of Platte, S. D., has gone to New York city for a special course at Bellevue.

Dr. E. W. Gag has decided to give up practice at Wabasso, and will seek a new location.

Dr. B. J. Brandson, who has practiced in Edinburgh, N. D., for several years, has moved to Winnipeg.

Dr. R. E. Woodworth, of Sioux Falls, S. D., has been appointed physician to the penitentiary of that state.

Dr. J. M. Kumpe, one of the oldest practitioners in Montana, died at White Sulphur Springs, Mont., last month.

Forty-one physicians took the South Dakota examination last month, and all but eleven were granted certificates.

Dr. W. C. Fawcett, of Starkweather, N. D., was married last month to Miss Francis E. Magwood, of London, Ont.

Dr. John J. Donoven, of Eden Valley, and Miss M. Harriet McIntyre, of the same place, were married last month.

Bids have been asked for the construction of the Tourtelotte hospital building at Mankato, and will be received by A. F. Winter until Sept. 14.

Dr. W. A. McEachren, of Sandstone, and Miss May Ingraham, of Lake City, were married last month. Dr. McEachren is a recent graduate of the Col. of P. & S. of Chicago.

Dr. E. L. Meyer, of Minneapolis, who graduated from the State University this summer, has located in Walnut Grove. Dr. R. H. Ray, whose practice Dr. Meyer takes, will locate in North Dakota.

Fergus Falls comes into possession to-day, Sept. 1st, of the twenty-five thousand dollar hospital given to the city by Vernon A. Wright. The city pledges the donor that the hospital will be maintained by the city.

Dr. F. E. Burch has returned to Glencoe after a year's study in Europe. He spent six months in the Royal Ophthalmic Hospital of London, and the remainder of his time in Germany and Austria. Dr. Burch is a State University graduate, class of '97.

The Upper Iowa Medical Society met at Spirit Lake, Iowa, last month and elected the following officers for the current year: President, Dr. W. E. Ely, Ocheyedan, Iowa; vice-president, Dr. E. Stover, Bigelow, Minn.; secretary and treasurer, Dr. C. S. Schultz, Spirit Lake, Iowa.

The Murray County Medical Club was organized at Slayton last month with the following officers: President, Dr. E. King, Fulda; vice-president, Dr. W. E. Richardson, Slayton; secretary and treasurer, Dr. L. A. Williams, Slayton. The next meeting will be held at Slayton in November.

Dr. J. N. McCormack, the organizer of the American Medical Association, will be in this state for two weeks, beginning September the 4th.

The following meetings will be held for him in the different Councilor Districts:

In the Third Councilor District at St. Paul in the Ramsey County Medical Society's rooms Monday evening, September the 4th.

An extra meeting will be held in St. Cloud, September the 5th.

The Fourth Councilor District, at Minneapolis, in the Hennepin County Medical Society's rooms, the evening of September the 6th.

The Second Councilor District, in Wadena, September the 7th.

An extra meeting in Duluth, September the 8th.

The First Councilor District, at Fergus Falls, September the 9th.

The Seventh Councilor District, in St. Paul, in the Ramsey County Medical Society's rooms, the night of September the 11th.

The Fifth Councilor District in Redwood Falls, September the 12th.

The Eighth Councilor District, in Mankato, September the 13th.

The Sixth Councilor District, in Madelia, September the 14th.

An extra meeting in Rochester, September the 15th.

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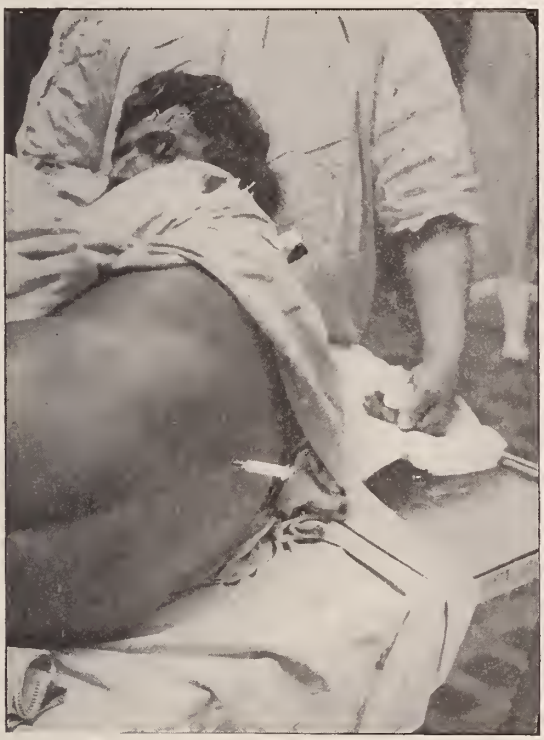
VOL. XXV SEPTEMBER 15, 1905 No. 18

TECHNIC OF MEDULLARY NARCOSIS*

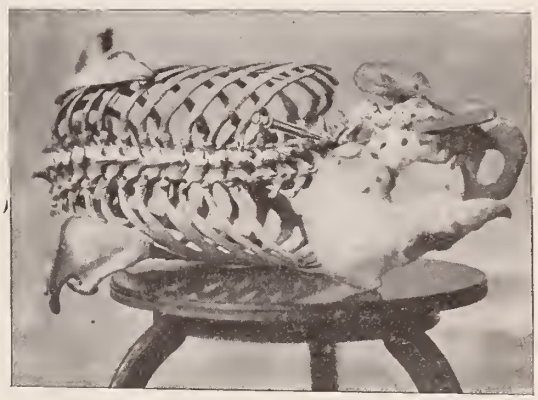
By A. W. MORTON, A. M., M. D.

SAN FRANCISCO, CALIFORNIA

The use of medullary narcosis has not received the recognition from the profession that is due it. There are several reasons for this. First, it is a radical departure from the established method which has been practiced by the profession during the last half century. The second and principal reason is the one I wish to especially emphasize, and that is that the technic is not thoroughly understood, and the surgeon, too, often does not have the confidence in his ability to perform the simple operation of injecting the patient, which is about as easy as the administration of a hypodermic. Imperfect technic has done more to produce failures, and discourage the surgeon in its use, than all other objections combined.



Tropacocain is sterilized by exposing the powder to a temperature of 300° F. dry heat, for fifteen minutes. The powder is then placed in sterile glass tubes and the ends sealed by heat, and file mark made on tube so as to open at time of use. The tropacocain may be placed in small vial, and the ends closed by a sterile cork that has been dipped in melted paraffin. This is a simple and satisfactory method. The adult dose is one grain; for the younger or very old the dose is diminished. The Lures glass syringe is always used, as it is easily sterilized by boiling, and can be readily connected to the needle by a joint. The working of the syringe can be observed during the dissolving and injecting of the tropacocain.



The needle is made of steel-wire, No. 19 gauge and three inches long, beveled short and the concave portion of it dulled to prevent cutting a plug of skin which might obstruct the needle.

The lumbar region is thoroughly cleansed, and

*Read before the Utah State Medical Association, May 9 and 10, 1905.

the patient placed in a reclining position with the body bent forward to separate the spinous processes, or the patient sits in an upright position with the body bent forward. The fourth lumbar vertebra is selected by being on an imaginary line connecting the crests of the ilium. The skin over the third lumbar space is frozen with ethyl chloride, and the needle introduced just beneath the spine of the third or fourth lumbar vertebra in the median line. The needle is directed slightly upward, and should you strike the vertebra it is only necessary to change the direction slightly, and continue until you feel diminished resistance or fluid enters the needle. Should the needle become obstructed it can be opened by increasing the tension of the cerebrospinal fluid by coughing, attaching the syringe and making suction, or passing a stylet. It is necessary to place the finger over the end of the needle as soon as it enters the space, to save the cerebrospinal fluid until the syringe is attached.

The syringe is filled with the tropacocain, and the piston closed; the syringe is attached to the needle and the piston is withdrawn until the syringe is half filled with fluid, which readily dissolves the tropacocain, and it is gradually returned to the cerebrospinal space by pressing the piston. If the analgesia is to be extended over the entire body the same method as above is pursued, except the maximum dose of tropacocain, or 0.5 grain of cocain hydrochlorate is dissolved and introduced as rapidly as the piston of the syringe can be pressed. I have used mostly the latter drug for work in the upper part of the body. The needle is withdrawn and the space covered with collodion. The patient is then placed in a reclining position.

The analgesia is almost immediate in the lower extremities, extending up the body gradually after the injection. The analgesia extends to the upper part of the body in from ten to twenty minutes. If the injection is made with rapidity it may be completed in five minutes. The analgesia lasts from one to three hours and often longer, depending on the size of the dose. It is seldom necessary to repeat the dose unless the primary one was small or analgesia not complete. Under such conditions I have never hesitated to repeat the dose.

The cocain in the subarachnoid space soon pervades the entire cerebrospinal fluid, and in that way comes into contact with the roots of the nerves where they are bathed with the cerebrospinal fluid. The analgesia then acts by contact rather than by entering the circulation, and extends the analgesia as high as it pervades the fluid.

The tropacocain has a special affinity for the nerve fibers which carry pain, as they are completely "blocked." The other functions of the nerves are not so acute, but the patients are able to detect tactile sensation, heat, or cold, and have the power of movement.

The ordinary dose of tropacocain produces very few disagreeable symptoms to the average patient. He will usually notice the numbness of the lower extremities and a warm sensation over the body. There is very little change in the respiration. The heart action is generally increased. Sometimes the pulse rate and blood drops to subnormal. Vomiting occurs in about three per cent of the cases. Headache will seldom occur if you are careful in the technic, and not waste the cerebrospinal fluid and dissolve the tropacocain in it. There is no increasing or diminishing the tension of the canal or changing its temperature by placing in a solution of cocain at a different temperature. This method places the least amount of foreign material in the canal, and makes the least disturbance, which prevents headache. I have not seen a chill since I have been using tropacocain. Shock and lowering blood pressure will sometimes occur, and I am inclined to think it is due to the large dose of the drug. The only time I have ever seen it alarming was in a man over sixty years of age who was suffering with carcinoma of the esophagus. I injected by mistake two grains of tropacocain. By lowering the head and giving 1-100 grain atropine hypodermatically, the symptoms soon passed, and I continued the stomach operation without alarm.

The advantage of this method should appeal to all, as there are few people who go into the unconscious stage of anesthesia without an anxious feeling as to whether they will regain the conscious state. The advantage of being able to take food up to the time of the operation and immediately after it, as well as stimulants during the operation, is of vast importance in many

cases. The prolonged vomiting which does occur after anesthesia I have never seen after this method. There are often times that we would like to consult the patient during the operation, especially if we find it advisable to remove a diseased organ, as, for instance, the testicle.

Operations about the buccal cavity, as excision of the tongue, are very simple, as you have the assistance of the patient, who can prevent the blood entering the larynx and the anesthetizer is not in the way.

Diseased lungs or kidneys are no great contraindication to its use, and the principal thing you need to weigh is the effect of the operation. There is little shock in this method, as no impulses of pain are carried to the brain through the cord.

The advantages in emergency work when the surgeon is short of assistance or the stomach is full, cannot be over-estimated to the country practitioner or on the battle field. It is a panacea to the obstetrician. Its cheapness, simplicity, and safety should appeal to all.

I have used this method in 2,066 cases: in 1,427 cases cocain hydrochlorate was employed, and tropacocain in others. I have operated on every part of the body, and it has seldom been necessary to repeat the injection to finish the operation. Only four times have I administered a general anesthetic after the operation had been started. I have often injected a case, and then given an anesthetic when the patient wished to be unconscious and I preferred to give the least amount of anesthetic so as to prevent shock and complications.

There has not been a death which could be attributed to the method. I am confident that the mortality following operations, especially in the aged, can be very materially decreased by the use of this method.

DISCUSSION

Dr. E. O. Jones: I have greatly enjoyed Dr. Morton's excellent paper, and at the same time I have been very much instructed; and I can assure the doctor that we all feel with keen appreciation the great favor he has shown us by coming here and reading this paper before us. I have had some experience with his method of inducing spinal anesthesia, and my observations are in perfect accord with the statements you have heard, as well as the great satisfaction that comes from the use of his method. I learned of his methods a year or two ago from Dr. Goodfellow of San Francisco, who also supplied me with a quantity of sterile cocaine, prepared as you have just heard. Perhaps the preparation was not exactly in the same form as that used by Dr. Morton and as shown you. The drug was put up in sterilized oiled or paraffin paper, the hydrochlorate being in 4-10th grain powders. However, I can readily appreciate that the preparation as put up by Dr. Morton would be found quite a little more convenient than if put up in powder form, as there is some inconvenience in using powders when the fingers are wet, and then, in addition, there is the chance of spilling some of the powder.

I have not made use of this method as a regular substitute for general anesthesia, but, rather, in cases where, for one reason or another, I thought it was not advisable to resort to a general anesthetic. In all, I believe that I have used this method about fourteen times, but even with this small number of trials, I can readily appreciate the great convenience, relative freedom from danger, and other advantages it possesses over the old practice. So far I have seen no disadvantages in its use. The vomiting which the doctor mentioned occurred but twice; but it was moderate and nothing to be alarmed over. This occurred a few minutes after the injection was made, and before I began operating at all. It was over in a few minutes, and from then until the work was completed no disagreeable symptoms of any kind arose. Previous to this afternoon I knew nothing about tropacocaine. I have always used the hydrochlorate. I have always prepared my patients as if I were going to give a general anesthetic; then I have been in the habit of giving 1-8th of a grain of morphine, with, say, 1-150th of atropine, just before the cocaine is injected. The vomiting occurred in the first three or four cases; in the later cases no vomiting has occured. So far I have never attempted an operation, in using this method, above the middle of the body, although I know that the analgesia does extend higher up than the middle of the body, and so I can readily appreciate that almost any operation can be carried out through its aid.

I have used this method in perineal prostatectomy, for amputations of the foot and leg, circumcision, and strangulated hernia. In the last case of strangulated hernia, the hernia had been down a long time, and the patient was in a condition of shock. In this case I am sure the patient would have died under a general anesthetic. The point mentioned by Dr. Morton, that of having consciousness to deal with, is a very material help in many ways: it enables the surgeon to consult his patient during the course of an operation, securing his full and free consent in peculiar circumstances, and in dealing with conditions unsuspected until the operation is commenced or partially completed. In a case necessitating the removal of a testicle, I could not determine the full extent of the pathological condition beforehand. It was a case that followed upon a severe traumatism, and I did not know beforehand just what the extent of the operation would be. After I began the operation I found the gland completely destroyed and riddled with pus sacs, here and there; and when I told the patient that the gland was destroyed and explained its condition, I obtained his consent to do as I thought best. In another case which I thought was hydrocele, and which I later found to be tubercular, I resorted to the same plan of procedure. I have never used it in obstetrical cases; but I can easily see that it would be just as serviceable and desirable as the doctor described it

The objectionable features raised against its general use are so unimportant that they really are not worthy of mention. The degree of shock amounts to practically nothing. The patient seems as well after the operation as he was immediately before it, and the after-course of these cases is simply ideal.

Dr. Whitney: I had the pleasure of witnessing Dr. Morton's work last summer in eleven cases. There is one point in the technic which was brought out in San Francisco and I think was mentioned by him to-day, and which is, or ought to be, of interest to everyone, namely, its employment in cases where a general anesthetic cannot be used. In the case of very old people where bony excrescences occur on the vertebræ, there may be some difficulty in using this method. I recall one case in particular in which this was likely the case. An interne made the puncture, and tropacocaine was used. I recall the fact that the interne failed to introduce the needle; then the doctor tried it, and also had some difficulty. He brought out this point, and it is well for us to remember it, as there may be cases of a similar nature, in which it will be found difficult to introduce the needle, and the direction of the needle may have to be varied somewhat from the typical plan described.

As before stated, I saw the doctor use it in eleven cases, and in this city I have seen it used in some nine or ten cases. The cases operated upon here under its use were all cases which, for some reason or other, were unable to take a general anesthetic,—contraindicated cases, such as old chronic bronchitis, cases of great debility, and cases of heart disease. These are cases in which one would hesitate to use a general anesthetic. I do not recall that we experienced any trouble in the cases treated by this method. In a few cases we encountered some cold sweating. All were on the alert and prompt relief was afforded, to our great satisfaction. Where I have been associated, at the Holy Cross Hospital, it has fallen somewhat into disuse, but it is thought of favorably, however. Naturally, we are very loath to resort to a method with which we are absolutely unfamiliar. I saw Dr. Morton use it in a routine manner. I think about three out of every eleven patients made considerable complaint when the puncture was made, and in two cases a second introduction of the fluid was necessary. This he always did when he found it necessary, a second injection being made in all cases where the first one was not sufficient. It was used in the case of a boy suffering with osteomyelitis of the tibia. The boy was afraid he was having pain, and I believe a second injection was resorted to. I believe this method was introduced here by Dr. McIlroy, after he returned from a visit to the Pacific Coast. I think it was also used afterwards in one of Dr. Boehle's cases, and still later in quite a number of other cases, but this seems to be about the limit to which it has been employed in this city.

Dr. Critchlow: I believe that every one present has enjoyed the discussion of this subject, the technic particularly. It strikes some of us as being much more simple than we have heretofore imagined, especially those of us who have had no experience with it. I have had no personal experience in its use, and would like the doctor, when closing the discussion, to tell us something of its effect upon the abdominal walls, that is, their muscular condition, in operations where it is required or desired that we have relaxation. It would be an interference, and, it seems to me, we should be laboring under difficulties to have the muscles of the abdominal walls contracted, especially so in small incisions or in appendix operations. Another thing which I did not get quite clear when it was discussed, is this: whether there was any change or place of election for the introduction of the needle and the injection of the anesthetic in cases where the operations are upon the higher portions of the body. And another point, the time required for one to wait for its distribution and influence over the higher locations. These are points which I would greatly appreciate to have the doctor dilate upon for a few moments.

I have thoroughly enjoyed this paper, and the discussions it has brought out; and my ideas are somewhat modified since hearing it, especially as to the scope and wide utility of this method of inducing analgesia.

Dr. Henry LaMotte: A short time ago, when I was in San Francisco, I had the pleasure of seeing Dr. Morton operate upon several cases, in all of which he employed the method under discussion. While these operations were not exactly along the lines of my own special work, I was very much interested, and a day or so later, through the kindness of Dr. Broderick of San Francisco, I was enabled to examine statistics in regard to the number of recorded cases in which spinal analgesia was used and reported, and by careful counting and tabulating I found that Dr. Morton had reported about 120 cases more than any other operator. In other words, Dr. Morton had done a greater number of operations under spinal anesthesia than any other man in the world. This fact alone should make us feel particularly proud of having the honor to have with us to-day a man who has done more in this special line of work than any one else.

Dr. Morton: Mr. President and Members: I have enjoyed the discussions which this paper has brought out. It is true that spinal anesthesia is not yet universally adopted, but we are using Western methods and Western technic instead of reading and relying too much upon text-books. It shows that we are thinking for ourselves, and working out our own independent successes.

I shall be very glad to take up each of the points that have been raised. The first doctor spoke of having his cocaine put up in papers, instead of bottles or hermetically sealed tubes. Now it is plain that this is not the best mode of preserving the drug for future use, for you cannot very well sterilize the outside of the papers, either by boiling or by immersion. Again, there is the very serious objection to handling it with clean and moist fingers, and the difference in expense is so slight that papers should not be used as retainers. If there is one thing more than all others of which we should be watchful, it is asepsis, and the use of papers as retainers is not a proper thing. I am glad to say that I have never seen a case of infection following this method. I feared we should have it; that there was danger in pouring the drug out into the palm of the hand, as is often seen. I believe it is taught that there are no leucocytes in the subarachnoid fluid, and thus this element of protection is lost; but we may find out some day that the subarachnoid space has many of the qualities of the abdominal cavity; but still we should always be as careful as possible, for we all know what a serious condition would result from infection of the cord.

Another point which the first speaker made is, that all the cases in which he used this method were cases in which he did not like to give a general anesthetic. This is quite common. Most men select cases where they cannot give a general anesthetic; and you will find that most of the cases in which this method has been used are cases where the average surgeon uses it instead of a general anesthetic, such as old cases, for prostatectomies, in kidney or heart disease; in fact, cases where there is a greater probability that the mortality would naturally be higher. This is a point which I did not take up, but in the cases that I have investigated, where others have claimed a heavy mortality attending its use, I have found that these are the very cases where we would expect a heavy mortality naturally; and because the method is new, it re-

ceives the blame. I have found one writer who reports two cases, both of which were fatal and both of which were injected by this method, leading one to think or conclude that the mortality attending its use was a serious thing. One of these cases was a diabetic, suffering from a gangrenous condition and in a comatose condition when the operation was undertaken. He did not regain consciousness, and died on the second day following the operation. From the very nature of this case, it would be impossible to determine what part the cocaine played. This is the class of cases that do not rally, whether you do or do not use cocaine. So it is very interesting to follow these cases up to determine whether or not the mortality is as grave as some would have us believe.

Another point that I notice is this: the first speaker stated that two cases of vomiting occurred, out of sixteen, I believe, operated upon; and in these cases, furthermore, he had used the hydrochlorate. Now, this corresponds exactly with my own experience in observations made upon over 1,400 cases. Most of them did vomit; but, later on, with the use of tropacocaine, three per cent is about the average in which vomiting occurred.

Another point: in regard to preparing the patient prior to operation. As a rule we do not pay much attention to the condition of the patient, unless in cases of abdominal operations. I think the less we interfere with our patients the better. They become mentally disturbed as a result of what I might call too much solicitude, and from evidences that we are concerned too much about them. To begin with a bitter or drastic cathartic, and to show, two or three days beforehand, too much concern, impresses the patient rather vividly that something of a serious nature is going to take place; and so I believe that the less a patient is disturbed in the way of preparatory treatment, the better will be results generally. In fact, I have gone so far that, in peculiarly susceptible patients, I even defer scrubbing the field of operation until the patient is ready to undergo the operation itself. A cathartic given the night before will often induce insomania. The patient does not rest well, and may come to the table not in the best condition for operation. Patients become frightened from actions that indicate alarm, and are not benefited, I say, by too much solicitude on the part of the surgeon.

Another point which the doctor mentioned is, that he gives a little morphine before the operation, or before the injection is made. This we have tried occasionally, but never lately, as I do not think it has much to do with the patient. It may be that the morphine benumbs the sensibilities, and there is a little less fear of the operation itself. I believe in using suggestion. Talk to your patient, reassuring him, and you can handle him I believe better than by using morphine previously.

Then, again, the doctor spoke of operations upon the prostate, gangrenous hernias, etc.—old men who are debilitated, suffering from hernia, strangulated or not. If you give them a general anesthetic, you are certain to increase the shock. Again, if you are dealing with a suppurating field, or, imagine, if you will for a minute that it is an appendix case, and you operate and there is no vomiting, as will be the case after the use of tropacocaine, there is this advantage, that the intestinal tract remains quiet; but under a general anesthetic, the patient commences vomiting, and if you are dealing with infection there is always the great danger of scattering the infection all over the abdominal cavity. This results from the movement of the intestine and the contraction of the abdominal walls. All this is practically avoided by the use of tropacocaine.

In acute appendix cases I believe that the cocaine method is especially indicated.

To refer again to the disagreeable effects of cocaine, there are disagreeable effects, but not many nor are they serious. One that bothered me most of all was headache, but with the improvement introduced in our technic, chiefly that of preventing any loss of the cerebrospinal fluid, I now seldom encounter this symptom, but you will occasionally have patients to complain of it, at times for three or four days after the operation. I saw one case that lasted for two weeks, but this seldom occurs, and is overcome by having recourse to the reclining position.

Dr. Whitney mentioned something respecting the difficulties of introducing the needle. There are occasional cases of this character. There are times when, in introducing the cocaine, the spinous process will be encountered; cases that become closely attached or ossified spaces between the spinous processes; and in these cases you will have to try several times before you are able to locate the cerebrospinal fluid. I have had just such cases, where I have had to withdraw the needle or re-introduce it, but I adhere to the central path, and find, as a rule, no great difficulty in making the injection. And another point which Dr. Whitney mentioned, that of the necessity of making more than one injection. One injection is the rule, and it is very infrequent that two or more injections are needed to complete the operation. The doctor said that in such cases the patients complain or say that they are experiencing pain. I have seen a number of cases of this kind in which patients would complain of pain, but I can always tell whether they are really having pain or not; and if enough attention is not paid to the technic, possibly anesthesia may not be complete. I find that these patients do not really suffer pain. They associate tactile sensations with pain; they feel and know that you are touching them, and some are inclined to associate these sensations with pain. Occasionally in sawing through a bone, they will complain of pain, the idea being so closely associated with pain; but if the patient is assured and you have his confidence this is rare also.

Again, if you do not desire to have your patient see or hear what is going on, you may stop up his ears or blindfold him; and I believe that there are many cases in which and for various reasons it is not desirable to have a patient see his surroundings. But it is best not to talk of pain. Patient should understand that pain is completely abolished, and if they insist upon having general anesthesia, it will be found quite sufficient for all requirements to drop a little alcohol into the inhaler, and allow them to smell it. I find this a very satisfactory means in such cases. Sometimes when they complain very much, I may finally yield. Under the plea of making an examination, I have proceeded to open the abdominal cavity, and then in order to complete the operation, I have found it necessary to give an anesthetic. There are times when a patient prefers or desires to be unconscious of his surroundings and the operation. The amount of the anesthetic in these cases may be, and can be, limited, so I simply use a general anesthetic to put them to sleep, giving them the minimum amount of the anesthetic to do so, and in this way eliminate the effects of a general anesthetic.

Some one spoke of the rigidity of the abdominal muscles or inquired as to their condition in abdominal operations. All I need say is that they have perfect control of these muscles. In abdominal operations when you get into the abdominal cavity, rigidity of the muscles would interfere with the operation, and so also would movement or rigidity interfere in plastic and other operations; but I have performed something over 100 celiotomies of different kinds, and if you desire a patient to relax he can do so; so also could he interfere with the operation by complete relaxation,

but these muscles can be held under control whenever desired.

Now as to the extent to which the upper part of the body becomes anesthetized. Usually the third lumbar space is selected, and it is here that the needle enters, being directed slightly upwards. You then dissolve the anesthetic in the cerebrospinal fluid as it emerges, using one-half grain or so of the hydrochlorate, or the amount which I have already stated if the tropacocaine is used. But a half grain of the hydrochlorate is the amount usually taken for the case if the operation is to be done on the upper extremeties; and, as a rule, I use this as I have had more experience with it. It is introduced as rapidly as you can press the piston of the syringe, and you will find that it reaches the upper part of the body in from five to fifteen minutes, sometimes even twenty minutes may elapse. If it gets into the ventricles, there is the danger of a fatality every time, so reports would lead you to believe. You may have symptoms that will alarm you, and you will read of these particularly in works on the upper extremities. But we have observed, so far, very little more in the way of symptoms than you will have in the lower extremities.

Now we come to the after-effects of the cocaine when used for or in medullary narcosis. That is something that has bothered the profession very much. Physicians have worried over that particular point.

Thus far, there has been nothing reported in regard to any changes in the integrity of the cord. In the first place, it does not appear reasonable to believe that there should be any changes of a serious nature in the cord, as you will recall the fact that we really inject the cocaine three inches below the terminus of the cord, and we inject only from three-tenths to one-half of a grain of cocaine. It is rapidly dissolved in the fluid of the spinal cavity, and there is absolutely no trauma of the cord produced, and consequently you would not expect any changes to take place in the cord as a result of mere contact. I have injected many cases of locomotor ataxia; and it is claimed that symptoms similar to locomotor ataxia are produced. In one case this seemed to arise some twelve months after I made the injection, but when I looked up the records, the patient had marked symptoms of locomotor ataxia previous to the operation. So far as we have been able to determine, I am safe in saying that we have had no such symptoms arise in any of the cases that have been injected. Now, I have injected the drug directly into the cord itself, in dogs, and while I have not made an exhaustive study in such cases, by cross-sections of the cord and so on, we noted nothing wrong after the operations. There were absolutely no symptoms, and so far as I know no degenerations have taking place, such as have been attributed to its use.

One of the speakers referred to the large number of cases in which we have used the injections. I think we used it more times than was mentioned; but all I was able in my record to find was the number mentioned.

Not long ago, some one wrote me from the east inquiring the reasons that led me to abandon this mode of treatment. I have not only not abandoned it, but I want to say here that I am having better results as we advance, and fewer and fewer objections arise against its use than I ever had in its earlier use. I am using it exclusively except in certain peculiar cases, which are exceptional. I know that ether is very safe, but there are many more objections to its use than there are against the injection or medullary narcosis. Of course, as a gentleman said, who replied to the general discussion of this topic, it is particularly serviceable in all those cases where a general anesthetic is contra-indicated for some reason or other; and it is right here, where you have a crippled kidney, a bad lung, a weak or diseased heart, and other contra-indications that medullary narcosis is far superior to the old methods, and in fact is the only rational recourse we have.

I again thank you very much for the courteous attention which I have been acorded.

Dr. U. Worthington: I think that I may be allowed to extend, on behalf of the Utah State Medical Association a vote of thanks to Dr. Morton, for the instructive discourse he has given us. I know that we have all been benefited by listening to what the doctor has told us. Until recently it has been the custom of the world to look towards the rising sun for information, and it has been only within the last twelve months that Dr. Goodfellow passed through this city, and told us what we could do in perineal prostatectomies by recourse to this novel means of inducing insensibility. We of the West feel the necessity of standing together, in order to bring ourselves prominently before the public, so as to dispel the delusion that we are not now living in the primitive land that we once lived in. We know what is going on in the world at large, however far we may seem to be removed from the great centers of civilization. The fact that some of the gentlemen from San Francisco have come here to read papers among us, and the fact that our views and minds are broadening, I trust will be the initiation or the opening up of a better and wider spirit in the dissemination of knowledge generally, and will bring other men of the character of Goodfellow and Morton, and other prominent men of the country, to meet with us.

In closing, I hope that Dr. Morton will carry back with him a favorable impression of us, and will realize the sentiment entertained towards him by this association. I further hope that the profession of the Coast will enjoy the privilege of coming here and meeting with us, and I know that all who meet with us will be accorded every courtesy that we can extend to them. Again I thank Dr. Morton for the kindness he has shown us in coming so great a distance to mingle with the profession of this state.

Dr. Morton: I appreciate very much the kind words that my fellow friend and practitioner has said in regard to our Western men. I do not think that San Francisco is entitled to any less praise than the physicians and surgeons of the great Middle West. And as for myself, I would rather be classed as a physician of a mountain town in Utah, to be around in this beautiful valley extending from Ogden to the South, than to live anywhere else. This place reminds me of the first seven years of my practice, just south of Utah, in Colorado; and if there is any place where a man can think with a clear mind, it is in such a place. There is freedom from restraint, and there is invigoration in these mountain fastnesses. I hope for, and I expect, great things from the profession of the Middle West, but I am glad the doctor speaks of us all as Western men. We are willing in the West to try, to test, and it is not much trouble to try; whereas, in the East few new ideas are taken up until the sanction of Europe has been given them.

The subject we have discussed here has remained dormant in the East for ten years after Corning's discovery. We have waited too long for the approval of Europe, but the profession of the West has been active in this topic of spinal analgesia without waiting for European authority to approve of it; and so it is that we have been trying this new method, as it appeals to the rational minded as safe and efficient, and the excellent work of Dr. Goodfellow on prostatectomy has led other men in the boundless West to

use it. I find that the Western man is willing to try and to do his best in anything that appeals to him, whether he be in Colorado, Utah, or California; and he is willing, besides trying, to tell his brethren about it, whether what he talks of accords with the approved or stereotyped ideas of the last half century or not. If you will read history, you will see how bitterly general anesthesia was attacked, and ridiculed even only a few years ago when Dr. Wm. G. Morton only fifty odd years ago began giving his experiences, having made his discovery of ether in 1848. He died of a broken heart because he was not accorded the credit he should have received. If it were not for Western men, and the men of today, the subject that we have been discussing would have fallen into disrepute, and even now, just as was general anesthesia, it is looked upon with fear. We of the West who are practically cut off are using it, and if it were not for the Western men, it would long ago have been abandoned, as it practically has been in the East.

Again I thank you for the kindly words you have used in expressing your feelings.

THE USES AND ABUSES OF ELECTRO-THERAPEUTICS*

By E. G. Gowans, B. S., M. D.

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It has been the history of all therapeutic advances that a new remedy is hailed as a panacea for all the ills to which flesh is heir, and in this respect electricity has been no exception. As a matter of fact it takes years of painstaking experimentation on the part of many clinicians to determine the legitimate place of a new remedy. This work having been conscientiously done, the drug or other agent comes to find its proper place, and to serve us as a tried and proven remedy. It is not uncommon, even to-day, to hear electricity spoken of as being applicable in the treatment of any stage of any disease; but it should be the purpose of all earnest searchers after therapeutic truth to apprehend, as nearly as may be, the limits of applicability of this very valuable agent in the treatment of disease. I shall, therefore, attempt to indicate those limitations. In order to do this it will be necessary to call your attention to the different electric modalities and the physiological action of each, because, without a knowledge of physiological action, intelligent therapeutics is impossible.

Static electricity was the first to be employed in medicine. It was used quite extensively in the latter part of the eighteenth century, but later dropped out of sight on account of the greater attention that was paid to the discoveries of Galvani, Faraday, Volta, and others. The machines then in use were unreliable and imperfect generators of static currents. More recently Vagouroux of France, Stein of Germany, and Morton of our own country have produced an awakening along this line, and the static electricity has now a well recognized place in therapeutics.

In static insulation the patient acquires the same potential as the machine, electricity escapes from him by all prominencies, especially the ends of the hair, and he is traversed by a current of very high potential. There are no pronounced sensory effects and no motor reaction, the general effects being (1) an acceleration of the pulse, which may be made to persist for several hours after the seance; (2) an increase in arterial tension; (3) a slight increase in temperature (.3°); (4) a general stimulation of secretion, and (5) general toning up of muscle.

Applied locally the effects are different. The modes of local application are the breeze, spray, and spark, the two former being convective in their character, and the latter being disruptive. The positive breeze has a bland and sedative effect, cooling and agreeable to the patient. The negative breeze may be rendered strongly irritant in its action by the interposition of resistance, by which means it may be made as rubifacient and counterirritant as may be desired. The spray is simply an intense breeze discharged with the electrode close to the patient. The static spark is either percussive or frictional. Sparks influence surface and deep sensibility, and determine certain motor and vasomotor phenomena. There is a burning sensation accompanied by shock, producing muscular contraction. The long spark produces a zone of hyperesthesia with pallor of skin, soon followed by redness. There are other forms of applica-

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tion, but they are simply modifications of those mentioned.

Now, to advocate the use of static electricity, in view of its physiological action, as a cure for all diseases, would brand one as a charlatan. To say, however, that it can be beneficially used in some stage of nearly every disease is only making a statement that can be put to a rigid clinical test. Practically, static electricity is a regulator of function, giving tone and nutritive activity to sluggish, wasted, or atrophied muscles, regulating nerve action either as a sedative or stimulant, dependent on the manner of its application, and relieving reflex pain, no matter how produced. It can be beneficially employed, therefore, in all debilitated conditions, after all major operations, and in convalescence from all diseases. The functional nerve diseases and reflex pain yield to careful treatment by static electricity more readily than to any other treatment within our reach. At a time like this when we work at such speed and generally live at such high pressure when the demands of modern civilized life, altogether too complex as it is, are greater than can be met by any except those who begin with a more than average neural capital, when we each day exhaust our nerve force and each night find ourselves with no reserve supply, all of which results in nervous exhaustion and irritability, any agent should be warmly welcomed by the profession that will calm the nervous system and subdue such irritability. Static electricity will do this, and induce a return to normal sleep, at the same time preventing the bad effects and dangers of self-drugging with chloral, bromides, paraldehyde, sulphonal, trional, neurosin, and the remaining members of this vicious list. Neurasthenia, hysteria, neuralgia, nervous headaches, yield to this as to no other one therapeutic agent. In the diseases of the cord, accompanied by pain, it affords prompt relief. It is almost invaluable in rheumatism, chronic synovitis, lumbago, and in the pains of arthritis deformans. It is not necessary here to speak of the curative powers of counterirritation, nor of the manner in which it influences the spinal trophic centers, for these are matters of common knowledge with physicians, but I do want to say that there is no better means of producing counterirritation than static electricity, because the operator has perfect control, both as to intensity and the duration of the application. Static electricity possesses the great advantage of being applicable without the removal of clothing, which in regular daily routine work is a great saving of time.

Concerning the high frequency currents, it should be stated that notwithstanding their pronounced physiological action which seemed to promise a wide field of therapeutic application, they have proved to be a sore disappointment. Some of the French authors recommend these currents in the diseases characterized by slow nutritive processes, like gout, diabetes, eczema, anemia, etc., but as a matter of fact treatment has not "responded to the hopes created by their physiological actions."

The direct or galvanic current produces effects which are divided into two classes: (1) effects common to the human body and inorganic electrolytes (these are cataphoric and electrolytic), and (2) effects limited to the body as a living organism (these are electrotonic and contractile). All of these effects vary, depending upon the manner in which the current enters the patient's circuit; i. e., the maximum may either be gradually or suddenly attained. These variations produce variable effects upon the motor nerves, and the muscles connected with them; sensory nerves, general and special; vasomotor nerves; the pneumogastric and sympathetic nerves, non-striated muscle; and on the brain and spinal cord.

The limits of this paper forbid much detail, so we shall have to dismiss, with a mere mention, the above topics, as well as those of electrodiagnosis, both in nervous diseases and gynecology. It should, however, be stated in passing that an immense amount of work has been done along this line by such men as Erb, in demonstrating the reaction of degeneration; Duchenne, Remak, and others. Both the galvanic and faradic currents find a wide field of application in gynecology, diseases of the nervous system, surgery, and eye, ear, nose, and throat, and genito-urinary diseases. In gynecology the galvanic current is used to produce a patulous condition of the cervix uteri, and secure drainage of the uterine cavity, to control endometrial hemorrhage, and to promote the absorption of serous infiltration, fibrinous exudates and blood extravasations.

The faradic current is used chiefly to relieve pain and congestion, to promote absorption of abnormal substances; also to stimulate physiological exercise of, and restore tone to, relaxed and weakened muscles in the pelvis.

G. Betton Massey, of Philadelphia, has this to say concerning the value of electricity in minor gynecology: "I shall not particularize beyond pointing out the large proportion of these ailments due to functional incapacity, local trophic derangement, and chronic inflammation; and the peculiar possibilities of this agent, so well known as a remedy in these conditions, when applied in the pelvis where the insensitive surfaces and structures permit the use of stronger currents than any where else in the body. Of its value in functional incapacity, whether neural or muscular, I need not speak. In trophic disorders, including displacement, relaxations, and many menstrual affections, it is of unrivaled value. Finally, in removing the consequences of pre-existent inflammatory conditions, nothing is equal to the polar or inter-polar action of the constant current; and it should be remembered that the diseased condition to be relieved is still a single inflammatory process, whether it is situated in the uterus, tubes, or ovaries, and, therefore, is amenable to the same agency."

Dr. Massey, one year ago, reported a series of cases of fibroid tumors of the uterus, treated by the Apostoli method, with the following results: Of 101 cases treated 22 reported the entire disappearance of tumor, with complete restoration and continuation of good health. Another 53 reported a considerable reduction in the size with equally good health. Of the remaining 26 cases, 9 could not be traced, since they were dispensary patients. Seven had died during the sixteen years of the study, and no record was given of ten others. This would indicate that about three-fourths of the cases were practically cured by electricity. He has been equally successful, or more so, in the treatment of post-inflammatory pelvic exudations, chronic inflammatory affections of the ovaries, and displacements of the pelvic viscera.

In the field of diseases of the nervous system, in which I am particularly interested, electricity has a wide field of application, and with the few exceptions in which specific treatment is indicated it will, when properly combined with attention to hygiene, diet, muscular exercise, hydrotherapeutics, rest, and psychotherapeutics, do more than can possibly be accomplished with drug therapy. I quote the following from Prof. Wm. J. Herdman of the University of Michigan, as indicating that wide field of application:

"By means of the direct current the neurologist obtains knowledge concerning the action, nutrition and capacities of muscles and nerves that can be obtained in no other way. (Diagnosis.)

"The direct current causes contraction of the muscular tissue, both of the striped and unstriped varieties, and invigorates the processes that depend on this muscular activity. (Tonic, eliminative.)

"By the action of the direct current nutritive material may be conveyed in greater abundance to the tissues needing it, and the metabolism of the neurons may be quickened. (Constructive.)

"Through the influence of the direct current on the muscular walls of the intestines, excreting organs, and blood vessels, elimination is promoted and the irregular distribution of blood, as in hypostasis and passive congestion, is overcome. (Eliminative, sedative.)

"By means of the direct current, exudates and neoplasms are broken up and prepared for removal.

"The direct current is both directly and indirectly germicidal because of its electrolytic action, and gives promise in the results of recent experiments of a capacity to transform toxins into antitoxins. (Antitoxic, antiseptic, disinfectant.)

"The local effects of the anode of a direct current on nerve tissue are such as to diminish its excitability. (Analgesic, antispasmodic.)

"It is thus seen that the direct or galvanic current, which possesses chemical, physical, and mechanical properties, can be turned to therapeutic account, to meet and counteract a great variety of morbid conditions that arise in the nervous system and elsewhere in the body."

The indirect currents are currents of high electromotive force as compared with direct currents, but with low amperage, and are alternating. They are used as nerve and muscle tonics, as, for example, in keeping up tone and stimulating the nutritive processes in muscles in cases

of paralysis, until the functions of the nerves are restored, thus preventing muscular atrophy from disuse. They find ideal use also where the Weir Mitchell rest treatment is attempted. The treatment consists, as you know, of isolation, rest, massage, full feeding, and faradism. The electric treatment extends over 45 minutes, being first applied to the soles of the feet; then to the bellies of the extensor and flexor muscles of the leg, respectively; then in the same way to the muscles of the thigh; then in like manner to the upper extremities; then to the muscles of the abdomen; and, finally, to the muscles of the back, the patient thus getting nearly all the benefits of muscular exercise without making any neural expenditure.

The various currents have uses in surgery, particularly in diagnosis and in furnishing the source of *x*-rays. It is, however, beyond the purpose of this paper to enter into a discussion of the three kinds of work, viz, photographic, fluoroscopic, and therapeutic, for which the practitioner uses *x*-rays, since this would furnish in itself sufficient subject-matter for one paper of the extent of this.

In addition, electricity is used as a source of heat and light—heat for local applications and for cautery work, and light for exploration of various body cavities, as exemplified in the case of the cystoscope, endoscope, head-light, rhinoscope, and laryngoscope.

Nor will it be possible to deal with the subject of genito-urinary diseases, in itself a wide and constantly increasing field for electrotherapeutic applications; electricity in diseases of the nose and throat; and electricity in dentistry.

Enough has been said, however, on the subject to indicate the limits of the field of applicability of this remedial agent, and from a knowledge of the physiological action of the various electric modalities, doubtless the ever alert members of the profession will, as time goes on, widen this field in some places and contract it in others.

The plea I desire to make for electricity is that it be treated as any other remedy within our reach; i. e., tested accurately and scientifically, and then employed precisely where it is indicated, and nowhere else.

I have attempted in the foregoing to indicate the present limitations of electrotherapeutics, and while it may seem that there is indicated a wide field of application it must be remembered that, if we desire reliable information on the use of any remedial agent, we must go to those who use it somewhat extensively and have given it a careful scientific test. The knowledge of electricity of a great many general practitioners is limited to what they have obtained from the use of a small portable faradic battery, and their conclusion in many cases is, that it is a pretty good thing to satisfy some delightful old chronic, but, further than that, it is of little use. This is unfair and unworthy of the noblest profession on earth. We cannot dismiss the subject of electrotherapeutics in this way. There was a time when electricity, of one form or another, was used indiscriminately on all cases with little understanding of physiological action, and no attempt at securing rational therapeutics; but that time has passed. Electricity in its various modalities is used to-day rationally, i. e., in view of its physiological action. The indications for its use, I have briefly and imperfectly pointed out. To use it to meet indications that are outside of what, from its known physiological action, it can reasonably accomplish savors of quackery and charlatanism, and is on a par with the treatment of physicians a hundred or more years ago, when they bled and physicked all alike.

The subject of therapeutics is becoming more rational every day. The general intelligence of the people demands common sense and intelligent explanations of treatment. People are getting away from the idea that a measure to be valuable must be mysterious. There are only a few specifics among the drugs. Most physicians, as they gain experience, use fewer drugs, and depend more and more upon diet, exercise, climate, heat, light, electricity, ozone, and the various other natural physical forces about us. A letter just now being circulated very widely for the purpose of interesting the public in the gymnasium of the University of Utah contains a reprint of an address by Dr. J. William White, professor of surgery in the University of Pennsylvania, in which these words occur—and I can think of no more fitting words with which to close this paper. "In fact," he says, "it would scarcely be too much to say that the intelligence

of a physician might be accurately estimated by his understanding and application of the effects of climate, environment, occupation, diet, and exercise, as compared with his use of drugs."

DISCUSSION

Dr. A. A. Kerr: Dr. Gowan's paper was an interesting one, and, so far as I am able to judge of its merits, a scientific one. My experience in this particular department of medical practice is rather limited, and I fear I can add but little to what you have heard. In regard to the therapeutic value of the static and the high-frequency currents, I believe that considerable benefit can be derived from their intelligent employment in selected cases: in neurasthenia, nervous exhaustion, insomnia, severe headaches, patients, as a rule, are decidedly benefited by the static shower or head breeze. In gynecological work, in addition to what would be indicated in the way of tonics, I have recourse to static electricity with, I believe, good results. Currents of high frequency are being used more and more, and with decided help in special cases. I think this form of electric current an important one; and I am very favorably impressed with its scope and usefulness as presented by Monell of New York in his excellent treatise on the use of electric currents in general, and this form in particular. I have now under treatment some half dozen cases. Just as I was leaving the office I met one of my patients, a man who had an old tubercular lesion, which I treated with the static current, in addition, of course, to other measures. He has gained about ten pounds, and has been benefited very much by the use of electricity.

It is well known that these currents effect trophic changes, not only causing muscular contraction, but stimulating changes within the cellular structure of the tissue, influencing circulation and favoring the absorption of exudates. It is highly recommended for a great diversity of other conditions, as enlargements of the cervical glands. While attending the recent meeting of the American Medical Association at New Orleans, I heard a paper by Dr. Massey, and the discussion following it, which occurred in the Surgical Section of the meeting. Some of his ideas as to what could be expected from the use of the current were very much ridiculed; but he evidently gets the results he speaks of, or he would not speak of these modes of treatment in such assuring terms. The principal criticism made was that his statements were not sufficiently explicit; but, as the doctor states in his paper, there are such widely differing conditions and such a large field for this special line of work, it is impossible to definitely state its legitimate limitations.

I believe this subject is generally neglected or treated with too much indifference. It requires time, patience, and perseverence to accomplish satisfactory results in this line of work as in any other. The profession is a little slow in realizing this, but I believe it is a subject worthy of investigation, and as a curative agent it offers us, at times, a ready means of affording not only temporary but permanent benefit.

POSTEROLATERAL SCLEROSIS, WITH REPORTS OF CASES*

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Among the diseases whose lesions principally affect the white matter of the spinal cord may be enumerated tabes, posterolateral sclerosis, and Friedreich's ataxia.

With tabes and its various manifestations you are all familiar.

Posterolateral sclerosis is spoken of by various authors as combined sclerosis, ataxic paraplegia, combined tabes, and progressive spastic ataxia. The last is perhaps the best descriptive name. It is a disease of mature life and of the reproductive period, and finds the majority of its victims between the twentieth and fortieth years. It is found almost as frequently as tabes, and, as its name implies, is a sclerosis of the posterior and lateral columns of the cord. Sometimes the lesion seems to attack one column of the cord with more intensity than another, and this seeming selection is a matter of great variation, and is as yet not understood. Whatever variations the different cases may present the entire lesion will, however, usually be confined to the posterior half of the cord, or what may be called the posterior arterial field.

While the assigned causes of posterolateral sclerosis are numerous it must be confessed that frequently no adequate cause can be found. Among the causes mentioned are embryonic deficiency as in Friedreich's ataxia, vascular lesions of the posterior spinal arteries, and a localized myelitis giving rise to ascending and descending degeneration. It is probable, however, that it is due to some form of toxemia, as it is often found associated with pernicious anemia, malarial poisoning, and lead intoxication. Some cases give a history of exposure to cold, concussion, trauma, or an antecedent luetic infection. It is possible that cases may be due to inherited syphilis and alcoholism in the parents.

Morbid Anatomy.—The lesion is more apparent in the dorsal and lumbar portions of the cord than in the cervical. Goll's columns will be found degenerated from the lumbar enlargement to the medulla. The columns of Burdach are affected in a like manner, but usually not with the same intensity, and the posterior root zones may escape entirely. The crossed pyramidal tracts are partially affected, and the direct cerebellar tract is always involved. The sclerosed area will show hypertrophied axis-cylinders and changes in the blood vessels. The alterations in the nerve tissue will be found

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most intense at the location of the vascular lesions.

Symptoms.—As we have a combined involvement of the posterior and lateral columns of the cord we shall have a symptom complex combining tabes dorsalis and spastic paraplegia, and, as before stated, either syndrome may predominate according to the intensity and location of the lesion. Perhaps the usual symptoms, including those referable to both tracts, are ataxia spastic weakness, increased tendon reflexes, which are more involved in the lower extremities, and cranial nerve symptoms later in the disease. These may be associated with dementia paralitica with its accustomed speech defects. No muscular atrophy will be found except such as may result from disuse, and no sensory disturbances. The tendency to help lessness is progressive. Dana says that after it is well under way it usually results fatally in six to twenty-four months.

Case 1

L. N. ——, female, single, aged 25.

Family history negative, except that the possible presence of hysteria was developed.

Trouble began five months ago with stiffness in left thigh and knee with some paraesthesia. About four months later the same symptoms were noticed in the right knee and leg.

On examination on September 15, 1904, marked spasticity was noticed in the left leg with characteristic spastic gait and some tendency to crossed-leg progression. Right leg spastic, but not so well marked. No ataxia, and no muscular atrophy. Sensation dulled, otherwise no sensory disturbance. Eye and elbow reflexes normal; patellar and Achilles much exaggerated; and ankle columns well marked on both sides. Trouble came on gradually with no history of trauma, strain, or any adequate cause. Two months later word was received from the physician in charge that the case had steadily and rapidly progressed, and that walking was impossible. Tremor and loss of muscular power had developed, circulation was poor from the knees down, and the paraesthesia persisted; all showing the rapid advance of paresis. No muscular atrophy was shown, hence there was no involvement of cells in the interior horn.

In this case the lesion of the lateral tracts predominate. The case was misleading on account of the first symptoms following closely on an emotional shock and the presence of hysterical stigmata, so that a tentative diagnosis of hysterical paraphlegia was first entertained, but very soon abandoned.

Case 2

C. J. ——, male, married, aged 35.

Family history negative.

Trouble began ten years ago in left leg after slight trauma in lumbar region, which was dismissed at the time as trivial.

Examination January 31, 1905. Patient walks with a cane and has crossed-leg progression. Gait markedly spastic. Eyes react to light and accommodation normally. Deep reflexes of jaw, elbow, wrist, knee and Achilles tendon greatly exaggerated. Ankle columns well marked. Romberg's sign present. No sensory disturbance, and no muscular atrophy. Lack of normal control of sphincters has very recently appeared. Progression has been very slow, but constant.

You will notice in these two cases that the time of onset is the usual, from twenty to forty years; that the cord involvement is similar; that there has been no remissions, yet the first case has assumed proportions in six months that the other has not manifested in ten years.

You will also notice that in the first case the involvement of the posterior columns is much less marked than in the second. In the early stages, when the ataxia is a pronounced symptom, these cases are usually mistaken for tabes dorsalis, but the muscular weakness, increased reflexes, the lack of sensory disturbances, the absence of girdle pains, and the Argyll-Robertson pupil, all point to degeneration of the lateral tracts.

Treatment has not been of marked benefit, yet something can be done to train the incoordinate muscles, and relieve the spasticity.

Anti-luetic treatment promises more than in tabes when this infection is present.

The muscular training commonly used in tabes may be resorted to with some hope of benefit, and hydrotherapy and massage will often relieve the spasticity, and the electric brush will stimulate the circulation. No form of exercise or treatment that exceeds the fatigue point will be of benefit.

"Complete relief, in the nature of things, is an impossibility, and the onward course of the paretic and spastic features is taken up sooner or later." Church.)

DISCUSSION

Dr. E. G. Gowans: I have been deeply interested and likewise instructed in listening to the reading of Dr. Ewing's able paper. I concur, generally, in what has been said and presented, but there are a few points mentioned in which our experiences differ somewhat. As to one of these points: I recall a case that came under my notice, which began essentially as a lateral sclerosis, and probably eighteen months elapsed

before it presented symptoms leading one to suspect that it was a posterior-lateral sclerosis.

As to the occurrence of syphilis as a causative factor in these cases, my experience has been this, that syphilis as a cause was practically absent in all cases coming under my notice; and I do not remember now of ever having seen a case in which a distinct luetic history could be obtained. In tabes the luetic history is, as a rule, frequent, and I think this is a point enabling us to differentiate between the two causes and common associations. In that group of cases presenting marked cachexia or pernicious anemia, I believe it is now taught that, as previously considered, the existence of sclerosis of a diffused or widely disseminated character is not to be regarded as true systemic disease.

Dr. Ewing has stated that, in the beginning, the clinical picture of posterior lateral sclerosis closely resembles that of tabes, but, so far as I now remember, there is a marked absence of sensory symptoms in all these cases; and I believe the absence of sensory and ocular symptoms will help one materially in making a differential diagnosis between the two.

As to the essential nature of the pathological processes occurring in this disease, I do not think there is much agreement in reviewing writers who have taken up this study. Some hold that the axis cylinder is not much affected, while others take an opposite view, and personally I am not prepared to offer any opinion myself upon these intricate points, as I have made no personal study of the pathology of this disease.

Dr. Ewing's paper was supplemented by neatly prepared microscopic slides, with facilities for examining the same. These were put at the disposal of all caring to view the specimens.

Dr. Ewing: I have nothing further to add, except it be an excuse for presenting the paper in the first place. The two cases illustrate the time of onset, as it usually occurs, and negative the remarks of Dana of New York; and this will apply to the great majority of cases, as complete helplessness will almost invariably follow inside of two years, as a usual thing. In the first case (hysteric paraplegia) it would be mistaken, as it had assumed proportions in six months which others do not attain in ten years. The first is confined to bed. The second is a physician that I saw on the street a few days ago. In this case there is marked spastic gait.

In these cases, furthermore, there is a little more hope in antiluetic treatment than in cases of tabes dorsalis; and there seems to be some reason for this greater hope in the treatment of this than in tabes. And this is my excuse for presenting these two cases of a very common affection—an affection more common than is generally supposed.

HOSPITAL BULLETIN

ST. BARNABAS HOSPITAL

MINNEAPOLIS

A CASE OF PERFORATIVE CHOLECYSTITIS

Reported from The Pathological Laboratory

Mr. L——, American, aged 60, grain-buyer, weight about 200 pounds, was admitted July 29, 1905.

Family History.—Father died at 60 from "heart trouble;" mother died at about same age from "dropsy;" one brother and one sister are living and well. Four brothers dead from causes unknown; two sisters dead, one at age of 64 from cancer, the other from the effects of an operation, the nature of which is unknown; wife died from "heart trouble;" two children dead, one from appendicitis, the other in infancy.

Personal and Past History.—Chews tobacco constantly, and drinks moderately; has little appetite; eats largely of pastry, pickles, etc. Had typhoid fever at 19; no other illness except attacks, such as are described under present illness, which have been increasing in severity and frequency for the past eight years.

Present Illness.—Began July 25, 1905, with pain at the tip of the ensiform. The pain bore no relation to eating, and was of so severe a nature that it endured all night unrelieved by morphine. During the night he had several attacks of vomiting, with severe retching. The vomitus was fluid; contained little food; was yellow in color, and very bitter. He had no headache. Three days later, he had another seizure of pain, which was now felt in the region of McBurney's point. With this attack there was no vomiting.

He entered St. Barnabas Hospital on the morning of July 29, under the care of Dr. J. Butler, with a diagnosis of cholecystitis. The urine showed albumin and granular casts. Bile acids were present with the sulphur test, but the Smith test for bile pigments gave negative results. The leucocyte count was 15,000. On July 31st, Dr. W. E. Rochford made an incision over the gall-bladder, which he found bound down by adhesions between the liver and the omentum. While breaking down these adhesions he came

to a pocket of pus, which was accidentally opened. Thin mucopurulent material escaped, similar pus also coming from the gall-bladder through an opening in the fundus, apparently made by the passage of gall-stone, but no stone was found.

A tube drain was inserted, and the patient returned to bed. His treatment consisted of stimulants and steam baths.

Death occurred six days later. A partial autopsy, performed by Dr. Rochford, showed both kidneys enlarged and congested, with much fat in the pelvis. The pyramids were well marked; the capsules stripped readily. The liver was enlarged, soft, and friable, having the characteristic "nutmeg" appearance. The gall-bladder was thickened and adherent on one side to the liver substance, and on the other to the omentum.

The fundus of the bladder was perforated, the hole being about four millimeters in diameter. A stone without facets was found at the opening of the gall-bladder into the cystic duct obstructing the outflow of bile. No other stones were found. Further examination was not permitted.

Microscopically, sections of the kidney stained with hematoxylin and eosin showed acute nephritis, probably toxic in origin, congestion, and some hemorrhage into the tubules. There was marked degeneration of the epithelial structures.

Sections of liver showed—

1. Congestion. The blood vessels were distended, and there was some hemorrhage.

2. Cloudy swelling and fatty degeneration. In the liver cells were both large fat globules and fine granules. A very few of the liver cells showed cloudy swelling without fatty changes.

3. Many small areas of infection, there being more near the blood vessels and more in those areas where the fatty degeneration was not the most extreme. These areas were small, and were shown only by infiltration with polymorphonuclear leucocytes. There was no necrosis. The epithelium lining the ducts showed degeneration.

4. Jaundice. The bile radicals between the liver cells were distinctly marked out, and greatly distended by brownish-yellow bile.

POST-OPERATIVE INSANITIES

By Mabel S. Ulrich, M. D.

One of the most distressing sequelæ of operative surgery is insanity. Fortunately although not so rare as to authorize its entire disregard, it is a complication sufficiently uncommon to warrant our ignoring except possibly when dealing with markedly neurotic subjects. Of late three cases developing at St. Barnabas Hospital have aroused considerable interest.

For many years it was thought that operations upon the pelvic viscera of women, particularly predisposed to mania. When, however, cases were recorded and the matter was investigated, it was seen that insanity might follow any operation however simple; cases following simple tenotomies were recorded, and moreover cases in which no anesthetic had been required. Indeed these cases should be sharply differentiated from anesthetic insanities. In the latter the patient passes directly from the anesthetic into the mania, and consciousness is affected or lost possibly for weeks or months from the time of the operation. The true post-operative insanities are invariably characterized by a period of quiescence immediately following the anesthetic. This period may vary in duration from a few days to weeks, although it is said to last usually for about one week. The young seem more often affected than the old. The onset is usually, although not always, gradual, beginning with a change of manner, often a pronounced irritability. The case may go no further, or acute maniacal symptoms may suddenly develop, which may in turn as suddenly subside or may end in chronic dementia or death.

Owing to the similarity of onset these cases have been compared to those of puerpal insanity, but this striking difference exists, that whereas in puerpal insanity one immediately thinks of sepsis, these operative cases may occur and usually do occur where the wounds have healed absolutely by first intention.

One would naturally expect to find a suggestive family or past history, but the truth is that in the largest proportion of the cases on record no such heredity exists.

Kelly in discussing his cases states that of 2,000 abdominal operations he has had 8 cases of insanity or one-half of 1 per cent. He finds that the condition is most common in neurotic women who have anticipated operation with great apprehension. But on the other hand, many cases are recorded after simple and wholly successful operations which have been undergone with all hopefulness. Such a case was that of the varicoele mentioned below.

The prognosis of these cases is fairly good, unless the past history gives evidences of alcoholism, syphilis, renal disease, etc., in which case they are likely to pass into the condition of chronic dementia.

When received there is, as would be expected, a complete amnesia. No relapse need be dreaded. In fact, several cases have undergone second operations with no recurrence of insanity.

The treatment consists for the most part in the feeding. As long as the patient's appetite remains good and the weight does not decrease, the outlook is hopeful.

Of the three cases which have occurred recently at St. Barnabas, one was operated upon for a (a) uterine fibroid, one for an (b) extrauterine gestation, and one for (c) varicocele. In not one of the three was there any family history indicating insanity. A and (b) were both highly strung neurotic women; (c) a man whose mental calibre even at its best would seem to be not conspicuously good.

In all three of the cases the onset of the mental symptoms occurred within two or three days following operation. They were all wholly free from any sepsis.

A resulted in death about one month after operation. The wound was perfectly healed, but the acute maniacal symptoms passed into those of chronic dementia, ending in death; (b) was wholly recovered from all mental symptoms after five days of intense suicidal melancholia. In this case the first symptoms of restlessness and discontent were manifested within 24 hours after the operation.

In (c), the onset occurred three days after the operation. The patient seemed in excellent spirits, being much pleased with the result, when, with no warning whatever, he passed into a state of violent delusional insanity. He succeeded twice in escaping from the hospital, and in one instance was restrained just as about to leap from the window. At the present writing, although not wholly restored to normal consciousness, he is rapidly improving.

ACUTE PERFORATIVE APPENTICITIS

In the Service of Dr. W. H. Aurand

Miss J—— was first taken sick July 19th, about 2 p. m., after eating a hearty dinner. At 10 p. m. I first saw the patient, and found her suffering intense pain all over the abdomen. The tenderness was likewise general. She had vomited several times. The temperature was normal; the pulse 100. I gave her hypodermically ¼ grain of morphine, and left with the understanding that I was to be notified as to her progress.

The following morning she was still in pain, but they did not wish me to call. At 6 o'clock the next morning I was summoned in great haste. The patient was in intense pain, which ½ grain of morphine did but little to relieve. The conjunctivæ were congested; abdomen was rigid; knees drawn up; temperature was 99°, and pulse 100. At this time the tenderness was localized at the region of McBurney's point. She was told that she had appendicitis. Immediate operation was advised and consented to.

The abdomen was opened three hours later. An abundance of free pus spurted out. No attempt was made to locate the appendix, and the pus cavity was not explored. A cigarette drain was inserted, and the patient put to bed. She has made an excellent recovery.

Immediately preceding the operation, the leucocyte count was 21,000. It has since steadily declined.

This case is interesting because of the rapidity with which it developed. Previous to this one attack she had never in her life been ill enough to call a physician. She had had no signs of indigestion or intestinal discomfort whatever; nevertheless, within 48 hours she had passed through all the stages of appendicitis, the organ had ruptured, and general peritonitis had begun to set in. This timely operation surely saved her life.

CLINICAL MICROSCOPY

Conducted by George Douglas Head, M. D.

EXAMINATION OF FASTING STOMACH CONTENTS

Under the caption "Diagnosis of Gastrectasis," Hewes (Boston Medical & Surgical Journal, June 15, 1905) gives the results of his study of the fasting stomach contents of 180 individuals, 20 being normal persons, 26 cases of gastrectasia, and 134 cases of various disorders of the stomach, not associated with stasis. He gives his patient a Leube test-meal at 6 p. m., and removes the stomach contents at 9 a. m. the next morning, the food remaining in the stomach 15 hours. The patient is, of course, allowed no food in the interim. He enumerates as characteristics of the fasting stomach contents of stasis cases:

1. Presence of abnormal food residue.
2. Presence of sarcinæ.
3. Presence of lactic acid.
4. Presence of abnormal yeast fermentation.

Of these the presence of abnormal food residue was the most constant, being present in 24 of the 26 stasis cases.

Sarcinæ were present in 7 of the stasis cases, and absent in all of the no stasis cases (154). In the 7 stasis cases in which sarcinæ were present free HCl was also present.

The third factor, lactic acid, was found in 8 of the 26 stasis cases and absent in all of the 154 no stasis cases.

A positive yeast fermentation test was present in 18 of the 26 stasis cases.

The one special advantage which the writer claims for the yeast fermentation and the sarcinæ tests is that they can be applied to the stomach contents at whatever time they may be obtained.

The author goes so far as to state that none of the four characteristics named above are present in the fasting contents in any condition of the stomach other than stasis.

To test for lactic acid the writer proceeds as follows:

To 5cc. of fasting stomach contents add a drop of HCl; shake the mixture with 5cc. of ether; draw off the ether, and add the ethereal extract to a very dilute solution of ferric chloride. If lactic acid is present, a greenish-yellow color will appear at the junction of the ether and iron solution.

To make the fermentation test the author mixes the stomach contents with one-half its quantity of sterilized 10 per cent glucose solution. A test tube holding 20cc. is filled with this mixture, and a rubber cork inserted carrying a glass tube, which reaches nearly to the bottom of the test-tube. The amount of gas formed in the tube in 12, 18, 24, and 48 hours is noted, and if more than one-twentieth of the contents of the tube is displaced by gas the test is declared as positive.

LEUCOCYTOSIS IN GYNECOLOGICAL CASES

In Progressive Medicine (Vol. 7, No. 2, page 196) is given a résumé of the work done by Pankow (Archiv. f. Gynäk, Bd. LXXII) concerning the value of the leucocyte count in the diagnosis of gynecological cases. His conclusions are as follows:

1. In all cases where repeated counts give a leucocytosis of over 10,000, and other causes for the increase can be excluded, the diagnosis of pus is justified.

2. In cases where the leucocytes are under 10,000 the diagnosis of suppuration cannot certainly be excluded.

3. There is no leucocytosis in pelvic hematocele unless suppuration occurs.

4. Rupture of a pregnant tube is associated with leucocytosis.

5. Torsion of the pedicle of an ovarian cyst directly after it occurs, results in leucocytosis.

6. Fulminating peritonitis may occur without leucocytosis.

7. In most cases of carcinoma of the uterus there is no leucocytosis.

8. The behavior of the leucocytes is independent of the growth of the tumor.

9. There is no leucocytosis in myoma uteri *per se*.

10. After excessive acute hemorrhage in myoma uteri there may be a post hemorrhagic leucocytosis. Continuous small hemorrhage does not produce leucocytosis.

The author lays down other conclusions concerning the behavior of the leucocyte count after operations, but as they have been thoroughly worked out in this country, they are too well understood to need repetition.

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THE UNIVERSITY HOSPITAL

The widow of Dr. A. F. Elliott, an old resident and practitioner in the early history of the city, has left a substantial property, worth at least $175,000, for a hospital for the medical department of the University of Minnesota.

Dr. Elliott was interested in the work of the University, and before his death provided a fund for University purposes. He was unable to complete his plans, but his widow has fulfilled his wishes and has now established an Elliott monument that will endure through the life of the University. The medical department has looked long for a public-spirited citizen to create the nucleus of a great hospital. This first donation came from an unexpected quarter, and for that reason is doubly welcome. Gifts of this kind should carry with them the germs of contagion; the symptoms ought to be infectious until a few of the moneyed men are inspired to follow the example of Dr. Elliott.

What could be more suitable than a hospital pavilion erected to the memory of a name, a pavilion set aside for the treatment of a certain form of disease, a building erected for special research work or the investigation of diseased states? Those who have visited hospitals in the East, where endowments are a frequent occurrence, know that the name of a pavilion is long remembered by patients, physicians, and students. It would be an easy matter for the West to follow the example of the East. In New York there are at least two hospitals, each of which has received more than a million dollars from two men. There are other hospitals in New York and other Eastern cities that have been given from one hundred thousand to five hundred thousand dollars. These gifts are not bestowed by many individuals, but are the spontaneous outpourings of men of means who understand the needs of the poor, the advantages of skilled methods of investigation, and the value of the equipment in a modern institution.

If the writer had money it would be a great pleasure to bestow it upon one or more hospitals. If there is any institution on the broad earth that should be amply provided for, it is a hospital for the care of the sick poor.

Minneapolis lacks an up-to-date hospital. We have many hospitals that are doing good service, but none of them are modern in their equipment. The Board of Regents will have plenty of time to study location, plans, and furnishings; and let us hope that some one will come forward and add materially to the amount already secured.

The University bows thankfully to the memory of Dr. and Mrs. Elliott, and the same admiration and thanks will be extended to those who may follow Dr. Elliott's example.

DR. McCORMACK OF KENTUCKY

The chairman of the Committee on Organization of the A. M. A., Dr. J. W. McCormack, was the attraction at the first fall meeting of the Hennepin County Medical Society on September sixth. Dr. McCormack wrote the first medical law that was adopted in Kentucky, and was the chairman of the committee on legislation in that state. He has also served twenty-five years as secretary of the Kentucky State Board of Health, and is secretary of the State Board of Medical Examiners. He is an organizer of the highest type, and is competent to speak on the problem of organization. For the past fifteen years he has been in close touch with every physician in the State of Kentucky, and has visited every county and has familiarized himself with every county society in the state. As a result of his labors he has been called by the A. M. A. to extend his influence and give his advice to

other less fortunate states. For four years he has been constantly visiting and organizing the various county and state societies until now forty-three out of the forty-five states have adopted the plan of the A. M. A.

Dr. McCormack is a broad-minded man, a born diplomat, and is thoroughly in earnest in his work. His plan for organization is simple. He believes in the organization of a society in every county that shall embrace every physician. He maintains that the real benefit to the physician is found in the county society rather than in the state and national associations. He believes, further, that the one purpose that should bind physicians together is that which promotes harmony and good fellowship. This is the strongest tie that will hold an organization together. It will do more than anything else to advance the interests of medical men from a professional, sociological, and commercial standpoint. The public will gain as much as the physicians, as has been shown in Alabama and Kentucky. Organization brings about a community of interest, a wholesome respect for each other, an improvement in sanitation, and a greater competency on the part of the profession, and hence a reduction in the causes of disease and a general benefit to the public.

It has been shown that where the physicians in a county are banded together and follow the promptings of fellowship that it is possible for every medical man to earn a good living and at the same time earn the respect of his brother practitioner. This in turn creates a feeling of trust on the part of the people, and a proper regard for business methods. Confidence in and respect for the medical man by medical men and the people is the one thing desired, and it can be attained only by organization and the observance of professional and brotherly standards.

Alabama and Kentucky are the two best organized states in the Union. Their medical laws are the best, and there is less friction in the profession, greater confidence between physicians and the public, and a feeling that the physicians are interested in the public welfare. The net result of this is the elevation of the profession of medicine, suppression of quackery and fads, the elimination of noxious patent medicine advertisements, medical laws that are protective, and a distinct and co-operative feeling between doctors and politicians. The state medical associations have become a part of the state governments, but are free from the objectionable features of old political methods.

The editor of THE LANCET proposes to take up and discuss other features of Dr. McCormack's address in detail at another time.

QUACKS UNDER A CLOAK OF PHILANTHROPY

A quack of the most nauseating type has invaded Minneapolis, and is advertising his wares at one of the large down town drug stores. This quackish man was heralded in the newspapers before his arrival as a philanthropist who visited the large cities to study and relieve the conditions of the poor. It was said in the advertisement that the names of the unfortunate poor of Minneapolis was desired by the charitably inclined gentleman in order that he might minister to their needs with money or food.

This modest man disclaimed any interference with the Associated Charities, but intimated that some cases might be overlooked to whom he might bring succor. As a matter of fact, he did send foods to a few families, but his motive was an advertisement wholly. As a result of this pseudo-philanthropic move he reaches the pocketbooks of the poor who can ill afford to buy patent medicines.

Such methods of introducing patent medicines are unscrupulous and debasing.

A quack who will sell a drug to cure deafness in three minutes is bad enough, but a quack who will prey upon the poor in order to eat into their scant savings is the most abominable kind of degenerate. To add to his notorious ends he publishes, or, rather, the newspapers allow him to publish, a dirty mess of reading matter that deals with parasites that measure one hundred feet in length, and the suggestions contained in his articles cause the unsuspecting reader to imagine he has a tapeworm.

To make his methods more flagrant, this quack has settled himself in one of the down town drug stores whose side walls are plastered with flaming patent medicine announcements.

This drug store has evidently decided that the

prescription and patronage of the regular medical man is not essential to its business. It has made known that patent medicines and other alcoholic remedies, as well as quack assistants, are all the people need. Druggists are presumed to sell medicines of unknown composition. They have not risen to a very high plane as yet, but the aim of the better class of druggists is to reach an ethical standard and to supply the public with pure drugs and chemicals manufactured by reliable and scientific means. They also aim to subordinate patent medicines as much as possible in order that the people may have drugs upon which they can depend. When a druggist turns his store into a cheap doctor's shop, and employs a quack to advertise his uncertain compounds, it is time the druggist's association and the State Board of Pharmacy were aroused from their slumbers. If a physician wants a prescription compounded it should be sent to a reliable pharmacist who furnishes reliable preparations, and not to the druggist who is unethical and who caters to the baser side of commercialism and who harbors a badly developed fungus in his shop.

BOOK NOTICES

HEALTH AND DISEASE IN RELATION TO MARRIAGE AND THE MARRIED STATE. A Manual contributed to by Leading Scientists and Physicians of the German Medical Profession. Edited by Geh. Medizinalrat, Prof. Dr. H. Senator, and Dr. med. S. Kaminer. The only authorized translation from the German into the English language by J. Dulburg, M. D., of Manchester, Eng. Royal 8vo. Two volumes, 1,256 pages, handsome buckram bindings. Price, cloth $16.00. New York City: Rebman Company, 10 West 23rd Street, and London, Eng.

The title of this work covers a subject of vast interest to our nation, and it is one upon which physicians should be posted, for they alone must influence any remedial legislation that shall have permanent value.

The authors of this two-volume work have treated the subject with characteristic German thoroughness, and have given the reader all the data that he needs for a thorough consideration of any phase of the subject. It is no exaggeration to say that the work is a masterful one, and it is surely one of great value.

The title gives but little idea of the wide scope of the book, for it is plain that the editor meant to make his work exhaustive, and he has accomplished this end by calling upon the ablest writers in Germany to treat the subject as he no doubt outlined it.

The library of every medical society or club should have the work, and the physician who feels able to possess it is fortunate.

NEWS ITEMS

Dr. G. W. Nickols has moved from Milaca to Hinckley.

Dr. Harold Rees, of Maynard, has moved to Granite Falls.

The State Board of Health will establish a laboratory at Duluth.

Dr. F. P. Strathern, of St. Peter, is in New York for special study.

Dr. Christian Johnson has returned from a summer trip to Europe.

Dr. George B. Ribble, State University, '04, has located at Great Bend, N. D.

Dr. Blake Lancaster, a graduate of Trinity College of Toronto, has located at Crosby, N. D.

Dr. E. C. Beer, of Royalton, has sold his practice, and will locate in Brandon, Manitoba.

Dr. C. C. Stevens, of Jasper, has given up practice at that place, and located in Norway, Mich.

Dr. E. W. Gag, who has been practicing for some time at Wabasso, has located at Breckenridge.

The contract for the hospital building to be erected by Drs. Karn & Bolsta, of Appleton, has been let.

The More Hospital, of Eveleth, is having an eight-room addition built to its present large building.

Dr. L. H. Hauman, of Bristol, S. D., was married last month to Miss K. A. Heesen, of Osseo, Minn.

The Murray & Fruend Hospital of Butte, Montana, has changed its name by dropping the word Fruend.

Dr. G. W. Frasier, of Parker's Prairie, a recent graduate of the State University, has located at Detroit.

Dr. A. O. Arneson, of Aneta, N. D., was married last month to Miss Gertrude O'Hara, of Park River, N. D.

The next examination of the North Dakota State Board of Medical Examiners will take place at Grand Forks on Oct. 3, 4 and 5.

Dr. R. W. Patterson, of Eagle Bend, has purchased the practice of Dr. W. A. McIntosh, of Deer Creek. The latter will retire from practice.

Wisconsin will soon begin work upon a tuberculosis sanitarium, which will be located near Superior, but the site has not yet been announced.

The contract for the brick work on the new hospital building at Mitchell, S. D., has been let for $17,000 to R. K. Hafsos, of Canton, S. D. The total cost of the building will be $25,000.

The North Dakota State Board of Medical Examiners have begun an active and effective crusade against men who practice in that state without a license. Two were fined $50 each last month.

The University of North Dakota opens its medical department on the 26th inst. It will give a course of two years in medicine, and will give the student a certificate that will admit him to the third year probably in any medical college.

Dr. J. W. McCormack, of Bowling Green, Ky., the national organizer of the A. M. A., has been speaking for the medical society of the state during the past month. He is a delightful and forceful talker, and no one should miss an opportunity to hear him.

The physicians of Faribault have undertaken to obtain a hospital for that city. The city council has been asked to contribute $5,000, and the Commercial Club promises to raise the same amount. The churches and charitable organizations will be asked to pay the current expenses of the hospital.

The Southern Minnesota Medical Association held its fourteenth annual meeting on Aug. 17 at Owatonna. The following officers were elected for the coming year: President, Dr. R. C. Dugan; first vice-president, Dr. J. B. McGaughey, of Winona; second vice-president, Dr. O. F. Way, Claremont; secretary and treasurer, Dr. W. T. Adams, Elgin. The meeting next year will be at Winona.

The Association of Military Surgeons of the United States meets at Detroit, Mich., Sept. 25-29, and will have for its guests the surgeon of Admiral Togo's fleet and men from the medical corps of England, Mexico, Guatemala and other countries. Major Seaman, U. S. V., who has been at the seat of war in Manchuria will relate his experience. One afternoon will be given up for a visit to the laboratories of Messrs. Parke, Davis & Co.

Dr. P. T. Geyerman, of Brewster, State University, '99, has formed a partnership with Dr. F. E. Walker, of Worthington. Dr. Geyerman, after graduation, spent a year in Europe, and he and Dr. Walker have been spending several months together in special work in Chicago. Dr. Geyerman will confine his practice to eye, ear, nose and throat work; and Dr. Walker will do the general work, making diseases of women and children his specialty. Brewster will be in need of a physician.

Dr. O. W. Archibald, of St. Paul, died suddenly last month. The Ramsey County Medical Society passed the following resolution of respect: Resolved, That in our prolonged association with him we recognized a man of sterling character and profound integrity; a wise and judicious counsellor, and one who had the welfare of his patients at heart. Good to his friends, he was generous to a fault. His many noble traits, so befitting to a physician, crowned, beautified and rounded out his professional career.

The Y. M. C. A. of Duluth will give a course of free lectures this fall and winter on health topics. We give the list of subjects and the names of the speakers: "First Aid in Case of Accidents," E. D. Stretch, M. D.; "The Digestive System," Theodore L. Chapman, M. D.; "The Eye and Its Care," Homer Collins, M. D.; "Consumption," W. R. Bagley, M. D.; "Appendicitis," A. C. Taylor, M. D.; "The X-Ray," Robert Graham, M. D.; "The Teeth," James D. Park, D. D. S.; "Care of the Body in Sickness and Health," E. L. Cheney, M. D.; "Contagious Diseases and How to Avoid Them," D. D. Murray, M. D.

PHYSICIAN WANTED.

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PNEUMONIA*

By H. H. Witherstine, M. D.

ROCHESTER, MINN.

Pneumonia has always been, and must still be, regarded as a most serious disease. It occurs in all countries and in every latitude. It has terminated fatally in a large percentage of cases from the beginning, and at the present time it yearly destroys too large a number of human beings throughout the world.

Pneumonia is an infectious and probably a contagious disease. Being due to a specific germ, the pneumococcus, why should it not be infectious and contagious? Pneumonia occurs when the pneumococcus is present in connection with some exciting cause producing a condition or soil, so to speak, favorable to the activity of the specific germ. While the pneumococcus must always be present in the development of a pneumonia, yet by no means does pneumonia always occur when it is present. I have repeatedly found these germs in sputum and in the upper air passages when pneumonia did not exist, nor had existed for years, in the patients examined. It is probably true, therefore, that the pneumococci may be present in the bronchi and upper air passages in a quiescent state until some favorable condition arises for their pathogenic activity. Likewise, I have often found the diphtheritic baccilli in throats of healthy people, especially in families in which children have been sick with diphtheria. The presence of these pathogenic bacteria, even in a quiescent state, must always be considered a menace to the individual, because no one can tell when the condition will arise favorable to the development of the disease.

It is interesting to note the results of the investigations during the past few years of the systemic invasion of the pneumococci, especially in the circulatory system. There is a wide difference in the findings, however, of different investigators, some of whom find the pneumococci in a small number of cases while others find them in a large percentage of cases. There is also a wide difference in opinion as to the significance of these germs in the blood. Some believe their presence in the blood has no relation to the severity of pneumonia, while others believe their presence means increased mortality. With further and improved methods of investigation the difference of opinion now existing will disappear, and probably the pneumococci will be found in most, if not in all, cases of pneumonia.

I have made only eight blood examinations. Pneumococci were found in five of the eight cases. The positive cases were those in which I used a large amount of blood. From 32 cases in one report Kohn had 10 positive results, 7 of which died. Sello reports 48 examinations. Of these 12 were positive, 10 of which terminated fatally. Sertoli reports 15 positive findings out of 16 examinations.

From the large number of reports I have examined there seems to be a wide variance in positive findings. In the later reports, however, this difference in the results of investigators seems to be less and less and positive findings greater and greater, due, no doubt, to improved technic in examination.

From the examinations so far made it seems yet somewhat uncertain as to the significance of pneumococci in the blood. Probably we have not yet learned all in this interesting field of investigation. We therefore cannot measure

*Read before the Southern Minnesota Medical Association, at Owatonna, August 17, 1905.

just how much of value we shall receive in diagnosis, treatment, and prognosis in the finding of pneumococci in the blood. After further investigation it may be determined more positively whether pneumonia is wholly a local affection or simply a local manifestation of a constitutional disease.

In the treatment of pneumonia we have no specific drug. It is a self-limited disease running a certain course, terminating suddenly, as it began, in recovery or death in about eight days. The relief of severe pain and tension, the protection of the heart, and conservation of the vital forces, are the requirements in the treatment of pneumonia. How much can be done, and how much should be attempted, must be determined in each individual case. It is not too much to believe that some serum will yet be found that will act through the circulation upon the specific organism producing pneumonia. I also believe that at least some good in the treatment of pneumonia is coming from further investigations of the systemic invasion of the pneumococci and a study of their toxic products.

SOME PROBLEMS FOR THE COUNTRY DOCTOR IN DISEASES OF THE APPENDIX*

By James Woodward George, M. D.

AITKIN, MINN.

The questions involved in the treatment of appendicitis, and the relative merits of medical and surgical treatment, are so thoroughly threshed over each year that a discussion of them is not necessary at this time; but there are certain problems connected with a small proportion of these cases, affected by the local environment in which they occur, which it may be of interest to discuss. To illustrate these problems, which I shall state later, I wish to report the following cases:

Case 1.—Subject, a man of about 40 years of age, medium height, spare, muscular, and apparently in the best of health. This man consulted Dr. Graves and myself in October, 1904, about a condition which he said caused him much discomfort and anxiety. He stated that at intervals of from two to six months he was visited with severe attacks of pain in the stomach, which later involved the bowels as well. Occasionally there was vomiting and diarrhea, but not always. Living at a distance from town, he had never consulted a physician during one of these attacks, which lasted from a few hours to a day or two. He was apparently well between attacks. Examination showed nothing abnormal in his condition at the time we saw him, and there was no tumor or tender spot in the abdomen. Because of the recurrence of the attack, however, an operation was recommended. The operation was performed at Rochester the following month, and an enlarged, thickened appendix was removed, giving evidence of former attacks of inflammation. Thus far, I believe, the stomach trouble has not returned.

Case 2.—Man, aged 38, robust and apparently healthy, taken at night with pain in abdomen in the middle line below the umbilicus. This was followed by vomiting and nausea the next morning. Dr. Graves was called to the bedside in the afternoon, and found the patient in great pain with temperature of 103°, and symptoms of a general peritonitis. When questioned, the patient gave a history of previous attacks of abdominal pain recurring at intervals of several months, and lasting only a few hours each time, with complete relief between attacks. He had never called a physician before this time. He was given the usual measures for relief of the inflammation, with the addition of morphine in full doses for the pain, which seemed to be especially severe.

On the second day the condition had changed but little, except that the temperature had dropped to 100°, and the pulse was small and thready.

On the morning of the third day I saw the

*Read before the Upper Mississippi Valley Medical Society, at Wadena, Sept. 7, 1905.

case with Dr. Graves. The temperature was normal; pulse about 90, very soft and weak; the distention and pain the same as before. This case was ten miles from town over a rough road, and removal by the road was out of the question; but as the river ran by the place it was decided to attempt to take the patient to town in a boat. This was done the afternoon of the third day, the patient being brought in, however, too near a state of collapse for an operation to be considered. During the night the pain seemed to abate, temperature rose to 105°, and the patient died at eight the next morning.

Post-mortem examination showed the small intestine dark colored and distended with gas, the omentum pushed up into a mass over the stomach, the lower third of the body cavity filled with thin yellow pus, and the appendix, which was as thick as a man's finger, four inches long, dark colored, and with a hole in the side as big as a pin head, firmly bound by adhesions in the middle line of the body, and so deeply embedded in the tissue at the back of the cavity as to leave a complete mould of itself when it was torn away.

Case 3.—Man, 20 years old, medium size, and of slight build. Taken with pain in epigastric region, with nausea and vomiting. The attack passed off, and was supposed by him to be a bad attack of indigestion until, on the following day, a moderate chill roused his suspicions. Seen by me in town the same evening, the patient had a temperature of 101.5°, a marked tenderness, and slight induration in the right iliac region. Asked if he had ever had a previous attack, the man said he had not, but afterwards remembered an attack of severe pain, which lasted only a few hours, nearly a year before.

Removal to hospital by next train was advised, but the patient felt so well by train time that he decided to wait awhile, contrary to advice. A second chill the following afternoon convinced him of his danger, and he went to Brainerd the next morning on the first train. Dr. Thabes operated immediately on his arrival, and informed me later that he removed an enlarged, gangrenous appendix, and gave the opinion that twenty-four hours longer delay would have been fatal.

The patient has made an uneventful recovery.

Case 4.—A young man, 23 years old, not in good health, because of previous excessive drinking, was taken very ill in the night, and a doctor was sent for. This time it was nine miles of winter road which the doctor must cover, and the patient was reached at midnight. He was in a state of extreme nausea, excessive vomiting and retching, and pain in epigastrium and upper umbilical region. Temperature 101°; pulse not over 70, hard and full. He had been drinking to excess two days before, and afterwards passed a day of exposure to cold and wet. Six months before this time he had had an attack of acute nephritis lasting several weeks, and during this attack of nephritis he had an attack of abdominal pain lasting several hours, then suddenly passing off. I found it impossible at this time to make a positive diagnosis of anything more than gastritis, and this was soon relieved by lavage. The general distress continued for two days, and at my visit on the third day, local tenderness and a distinct tumor in the right iliocecal region could be made out. The non-purgative, rest, and starvation treatment which had been begun at the first visit, was continued, and for eight days the patient was absolutely without food, and took water into the stomach only in teaspoonfuls at intervals of several hours. On the fourth day there was a period of several hours during which the patient was in a state of great weakness,—pulse scarcely discernible, and temperature 97.5°, but he was free from pain and insisted, with what breath he could spare, that he was all right, and would have no more trouble. A small dose of strychnine given hypodermatically soon caused the strength to return, and from that time his recovery was uneventful, all symptoms having subsided on the ninth day. In three weeks the patient was doing light work. There is still (six months later) a slightly hardened area in the right side, and I believe the man intends soon to submit to an operation.

These cases have been selected from a number occurring in my own and in Dr. Graves' practice within the last two or three years, not because of any peculiar features, but because they illustrate so well certain of the problems and difficulties met with in country practice. No doubt all of us who are engaged in general practice have each year a greater or less num-

ber of men and women who come to us telling of recurring attacks of abdominal pain, and asking for advice and relief. Like the first case given above, they usually describe their trouble as dyspepsia, colic, or other common ailment. Their lives are passed remote from the towns, and it often happens that the sufferer is never seen by a physician during an acute attack. In the case previously mentioned, the man was advised at a venture to submit to an operation, and the advice proved to be correct. But it seems hardly reasonable to recommend an appendectomy for every comer who complains of chronic gastralgia. The difficulty lies in separating the true appendicitis cases from the others. We have found that the physical signs are not always reliable, and if we depend upon them, we shall one day be sending a patient away with a prescription for a stomach tonic, and carrying a dangerous focus of infection within him. Judgment in each individual case can do much, but a means of accurate diagnosis, such as the leucocyte count in acute cases, is a boon which the general practitioner has yet to hope for.

The other problem confronting the country doctor, which is also illustrated by the cases reported, is the question of operative treatment of cases of appendicitis occurring in the country too far away for transportation to a hospital. A certain proportion may be successfully treated by Ochsner's non-operative method, of absolute rest, withholding of purgatives, administration of bowel sedatives, withholding of all food from the stomach, lavage, if needed, for nausea, and, if required, rectal alimentation. Still, there remain a certain number which, because of severity of onset, signs of rapidly spreading infection, and absorption of toxins, call imperatively for early operation. Now, these are the cases which it is most dangerous to move by any but the easiest means of transportation, and in which a few miles of country road puts removal out of the question. The element of time is also important. Dr. John F. Binnie, in discussing the question of time to operate, says in his new "Manual of Operative Surgery": "If possible, operate within forty-eight hours; twenty-four is better than forty-eight, and twelve is better than twenty-four." Now, allowing the family time to call a doctor (quite an important and time-consuming procedure, where the message must be sent ten or twelve miles), by the time the doctor reaches the bedside, if it is a case for operation, it is, as a rule, too late for safe removal with the facilities at hand. Then operation at the home becomes a necessity, and I believe that in many farmhouses, if proper preparation is made, this can be done with perfect safety. But here the saving of time becomes still more important, for by the time the doctor has returned to town, secured his assistants and nurse, and again made the trip to his patient, and an operating-room his been prepared, the time limit for an early operation will, in many cases, have been exceeded. "After the lapse of forty-eight hours," says Dr. Binnie in the work quoted above, "it is better to adopt Ochsner's plan of non-operative treatment." But this involves close watching, and thus the difficulties are multiplied for the man who must visit different places many miles apart.

The services of a trained nurse are very necessary for this work, but, unfortunately, among people of limited means this is not always to be had. In any case, a telephone is an amazing help, and, wanting this, a messenger in readiness is a necessary substitute. Then, in order to save time, the proper equipment held in readiness is important. I believe such an equipment could be prepared, consisting of sterilized sheets, towels, gauze, sponges, disinfectants, etc., compact enough to go into an ordinary trunk, and complete enough so that a trained nurse could in a few hours convert any room into a fairly convenient and perfectly safe operating-room. I know that such outfits are used for other purposes, such as obstetrical work, but for operative work I have not the benefit of any experience in their preparation or use; but this much is evident, the entire outfit should be kept in readiness, and securely locked against rifling of any part for minor cases, which would leave it incomplete at the time it is needed. Then, being ready to operate himself in case of necessity, or to call in the nearest surgeon when possible, the man in country practice is prepared to give his patient the best care that the circumstances will permit, and he is thus one step nearer the solution of a problem which confronts him a number of times every year.

UNWARRANTED ENCROACHMENTS OF THE GENERAL PRACTITIONER UPON THE FIELDS OF THE EYE, EAR, NOSE, AND THROAT SPECIALIST FROM THE LATTER'S STANDPOINT*

By Frederick Stauffer, M. D.

SALT LAKE CITY, UTAH

By way of apology for attempting to write on this subject I will say that it is not one of my choosing, but one that was selected by the executive committee, and referred to me to elaborate upon.

The motive which prompted the committee to select me for this subject is not quite clear, unless it be that they wish to embroil me with the general practitioners of this Society. Be that as it may, I have some views on this subject which I shall briefly set forth.

In the civilized countries of Europe, as well as in the various states of our Union, laws regulating the practice of medicine and surgery are in force. After the student has completed the required course of study to qualify him to commence his life's work in the interest of humanity, he applies to the board of medical examiners of his state for a license to practice. If he is successful in his examinations he is granted a license, and thus secures the right to practice medicine and surgery in all its branches, and, so far as the civil law is concerned, he may hold himself out as a general practitioner of all the specialties pertaining to medicine and surgery, and, therefore, who dares question his right to encroach upon the field of any of the specialties and particularly upon that of the eye, ear, nose, and throat specialist, as I am expected to do?

To do this I shall appeal to a sense of moral law which has always been a "guiding star" to the medical fraternity since the time of Hippocrates, who formulated a code of ethics which comes down to us essentially unchanged and which has served well its purpose in the absence of the civil laws now regulating the medical practice.

While the doctor practices his profession primarily for the pecuniary benefits to be derived therefrom, in his eagerness for the fee he should never lose sight of the best interest of his patient, and upon this point we must refer to the moral law, which is well exemplified in the golden rule.

This brings us to the subject of specialties in medicine and surgery. Not far in the past these sciences of to-day were mere arts or empirical practices that could well be mastered by an applicant of reasonable intelligence, and there was but little need of specializing and but little was done. But because of the rapid advancement during the last half century, and to keep pace with the present progress, it must be apparent that the physician of the present and the future must be a specialist.

The need of specializing is felt, not only in the medical profession, but in other sciences and vocations, and I believe I cannot do better than quote the words of Dr. Winship, just recently uttered, upon this subject before an audience of school teachers in this city. He said, while speaking upon the subject of the twentieth century standards, that he would have as much respect for a man who disregarded all modern methods of travel, and would invest his money in an old stage-coach line running throughout the United States, as the man who cries out for the good old things in the line of education. He held that the opening century will develop a man who is ahead of his race in some one line: "The man of the future must be a specialist, and he must be able to excel in some one line, or he will have a hard time to find a place in the world."

These sentiments, I believe, apply with greater force to the medical profession than to the school teacher. If this be the case, must the general practitioner be done away with? Certainly not. He is as much a specialist in his line as is the oculist, aurist, or gynecologist. He is usually the first to be consulted in all forms of human

*Read before the Utah State Medical Association, May 9 and 10, 1905.

ailment, and upon him the patient relies implicitly for advice. He should therefore be an expert diagnostician, in order to recognize disease in any organ of the body. If he finds disease due to errors of diet or wrong living he instructs his patient how to correct them. In case internal medicine is needed, he writes his prescriptions and sends them to specialists (druggists) to prepare. In case of fevers, as for example, typhoid, he calls to his aid a nurse, who has had special training in caring for the sick, and in executing a doctor's orders. It is not expected that the general practitioner should operate on or personally treat diseases of the eye or ear, for example, any more than he should be asked to put up his own prescriptions or nurse his own fever patients, when these can be done by specialists with no greater expense to the patient and at the same time with more skill.

I wish now to point out a few instances of unwarranted encroachment upon the field of the eye, ear, nose, and throat specialists which are by no means rare. I will refer, first, to one of the most common of these encroachments, which certainly does not add to the pecuniary good of either the general practitioner or his patient. I refer to the very common practice of prescribing some simple spray or douche for patients suffering from all kinds of nasal catarrh, without even making a rhinoscopic examination. With the prescription for the douche or spray, the patient is usually impressed with the idea that there is no cure for catarrh, when the fact is that a very large majority of such cases are due to some simple nasal deformity, such as a spur or crest on the septum, or a hypertrophied turbinate, which can be easily relieved, and the catarrh cured by one skilled in this line of work. Another instance of unwarranted encroachment, which is quite common, is in the case of children suffering from earache and suppurative otitis media, due to a pharyngeal vault full of adenoids. The general practitioner makes a diagnosis of "running ear" from teething, and prescribes a spray for the nose, and boracic acid douche for the discharging ear, and without relief, while in reality a proper diagnosis and a thorough removal of the adenoids would relieve pain, and stop the suppuration, and would otherwise prevent innumerable troubles that result from their presence. Again, in many of the acute exanthemata, such as scarlet fever and measles, where there is a great tendency to inflammation and suppuration of the middle ear, the general practitioner often satisfies himself with the use of laudanum and sweet oil poured into the ear and a hot-water bottle applied to the side of the head, while the infective secretions that have found their way from the throat through the eustachian-tube into the middle ear, are destroying the tympanic membrane and ossicles, and thus doing irreparable damage to the organ of hearing. But one equipped for otoscopic examination would recognize the earliest pressure symptoms by a bulging membrane, and would relieve both pain and damage by a free incision into the tympanic membrane.

The encroachments of the general practitioner upon the eye specialist field are not infrequent, as, for example, there is a large class of patients who suffer from severe reflex disturbances, such as headache, dyspepsia and neurasthenia, which have their origin in errors of refraction or eye-strain. These symptoms are frequently treated by prescribing all the remedies of the pharmacopeia with only temporary relief, whereas if they were referred to an oculist they would receive permanent relief by obtaining and wearing proper glasses. Occasionally the oculist has a patient referred to him who has "taken cold in his eye," as he calls it. The pain increases in his eye and extends to the temple and whole side of his head, notwithstanding the faithful application of the boric acid lotion which the family doctor has prescribed with the assurance that all would be well in a few days. Not until failing sight in the affected eye comes on from occlusion of the pupil or iritic adhesions, due to advanced iritis, does he lose faith in the doctor's lotion and consult a specialist. Irreparable injury has already been done, while, if the proper diagnosis had been made in the start and the proper treatment applied, the patient would have been tided over the stormy period safely and without permanent injury to the sight.

While instances such as I have noted might be multiplied, enough has been said to show that there are still some unwarranted encroachments upon the fields of the eye, ear, nose, and throat specialists by the general practitioner. I wish

to say, however, that I believe that the large majority of the general practitioners of this state are conscientious with their patients, and do not assume the treatment of eye, ear, nose, and throat patients who require such special skill in treatment as they are not prepared to give.

In conclusion, I will say that I believe that the general practitioner is unwarrantedly encroaching upon the field of the eye, ear, nose, and throat specialist whenever he undertakes to treat disease of these organs when in his opinion the treatment could be better carried out by one who has had special training, provided that such special aid is within the reach of his patient.

WHAT THE GENERAL PRACTITIONER SHOULD KNOW ABOUT THE SPECIALTIES*

By L. W. Snow, M. D.

SALT LAKE CITY, UTAH

The aphorism "Life is short, art is long, technic is difficult," applies with even greater force to-day than when it was uttered two thousand years ago by the father of medicine. The art of medicine has been and is making rapid strides, so that it has become extremely difficult, if not impossible, to equip medical students with full knowledge of their craft in every branch of medical work. Few will find it possible while in the practice of medicine to keep abreast of the rapid progress in every branch of the profession. Gradually one specialty has developed after another, owing partly at least to the necessity of special training in a certain technic.

While the progressive division of labor is not only a stern necessity, and we have every reason I believe to be grateful for the advancement and splendid results which it has brought forth, yet it cannot be denied that in this development of modern medicine there is one real danger of over-specialization. There is danger that the enthusiastic specialist may see a local trouble everywhere, and thus overlook disturbances of general health and other organs which require the chief attention.

I believe that we all agree that no specialty can flourish which separates itself completely from the general science of medicine or if it does not remain in proper relationship with other specialties so that we may all assist one another.

Chronic obstruction of the nose undoubtedly exercises a very unfavorable influence upon the general health, a fact which is clearly demonstrated by the surprising improvement which follows removal of adenoid vegetations in well developed cases. A cerebral abscess is now known to be much more frequently due than was suspected only a few years ago to diseases of the middle ear and mastoid process, and has become infinitely more accessible to treatment than one could venture to hope in previous years.

I may further remind you of the frequency with which the throat, nose, eye, and ear are affected in infectious diseases, such as measles, scarlet fever, smallpox, typhoid fever, and influenza. I may remind the general practitioner of the occasional development of cases of ophthalmia neonatorum in his obstetrical experience. These cases are fortunately not so frequent in our locality as in some parts of the world, but they occur with sufficient frequency to warrant the exercise of vigilant care in obstetrical cases. According to Prof. Magnus of Breslau, of all who become blind during the first years of life, 71.99 per cent are rendered so by this disease. Thirty per cent of the inmates of blind institutions in Great Britain have lost their sight from this cause. Fuchs, Magnus, and others claim that more than one-quarter of the blindness of the civilized world at the present time is caused by this disease. Before the adoption of Prof. Crede's methods of treatment the percentage of ophthalmia neonatorum in various lying-in institutions ranged from 19 to 4 per cent. Now in the same institutions since the introduction of his methods it has been reduced to 0.2, and even this can often be attributed to the neglect or carelessness of the attendant.

We can all recall some unfortunate case or

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cases where either ourselves or brother practitioners have been severely criticised for overlooking this disease at its inception.

The general practitioner should bear in mind the influence of eye-strain on the general system, and be prepared to make simple tests of distant and near vision.

Glaucoma.—The general practitioner should be familiar with the usual symptoms of glaucoma, and be able to diagnose a typical case of this disease. There may be subacute or chronic cases, or acute cases complicated with some other disease, in which the diagnosis is difficult to make, but if he remembers the dilated pupil, the rainbow colors seen by the patient, the anesthesia of the cornea, and the increased tension, he will at least be on his guard for this dreadful affliction. Overlooking the cardinal symptoms of this disease may doom the patient to perpetual blindness.

Iritis.—The general practitioner should be able to diagnose a typical case of iritis, or at least be on his guard for this disease. He should also be somewhat familiar with the treatment of a case of this kind.

Ulceration of the cornea and suppurative keratitis, with ulceration and perhaps perforation of that structure, are occasionally seen during the course of typhoid fever. Other eye complications which may be due to typhoid fever are infectious iritis, papillitis or choked disc, and orbital cellulitis terminating in orbital abscess of a serious nature.

The general practitioner should have a general idea of the diagnosis and treatment of foreign bodies in the cornea and conjunctiva; also of penetrating wounds of the eyeball, bearing in mind the danger of sympathetic ophthalmia.

He should be able to diagnose enlarged tonsils, and be familiar with the ordinary symptoms of adenoid growths.

Scarlet fever and la grippe are responsible for a large number of serious complications of the ear. Acute inflammation with suppuration of the middle ear is a common occurrence. An involvement of the mastoid cells with necrosis and later intracranial complications is not uncommon.

Several cases of meningitis in infants and children originating from pus in the middle ear have come under my observation in which the ear trouble was not known to exist, or its importance was overlooked till the case had progressed beyond the point where operative measures would have given relief.

In infants a suppuration of the middle ear before rupture occurs may very easily be overlooked. If, however, the physician is on his guard some obscure brain symptoms may, in some cases at least, be cleared up by an examination of the ear, and operative measures if necessary may be employed in time to prevent a fatal termination of the case.

The general practitioner should be able to examine the ear with the aid of reflected light; to detect ordinary foreign bodies, cerumen, and polypoid growths, and to diagnose suppuration of the middle ear. He should understand enough of the anatomy of the ear to cause him to use extreme caution in the removal of foreign bodies from the same.

Typhoid Fever.—The ear complications of typhoid fever have received but little attention; at least there is very little literature on the subject. It is well worth the attention of the general practitioner, however, as impaired hearing, often permanent, is not uncommon, and intracranial complications, mastoid empyema, offensive otorrhea, and facial paralysis are all probable complications.

The exact frequency of middle ear complications of typhoid fever is difficult to determine. It would naturally vary in different epidemics, different countries, and different social conditions and surroundings. Bezold saw 1,243 cases of typhoid fever, and saw about four per cent of ear complications. Louis records 45 severe cases of typhoid fever with suppuration of the middle ear in about nine per cent. Day and Jackson report 780 cases of typhoid fever, with 88 cases of suppuration of the middle ear, or more than 11 per cent. With early recognition of ear complications in typhoid fever, some serious and perhaps fatal complications may be prevented.

Nasal Hemorrhage.—Every physician should know how to stop nasal hemorrhage. Not only how to tampon the anterior naris, but also how to plug the posterior naris as well. He should be able to examine the nasal cavities with reflected light, and to detect ordinary foreign bodies in the same.

Physicians practicing in a city where special-

ists are accessible will perhaps care to do little special work. Those in sparsely settled districts can, with benefit both to themselves and their patients, devote a little more time and attention to some of the ordinary work which comes more directly under the care of the specialist.

Were I able to mention all that the general practitioner should know about specialties, I would not wish to trespass on your time and patience to do so on this occasion. I have tried to give a few suggestions to awaken some thoughts on this subject.

I trust that the general practitioner and the specialist may be as mutually beneficial to each other, and work as pleasantly and harmoniously together, in the future as in the past.

DISCUSSION

Dr. A. C. Ewing: Dr. Snow, although in a rather brief summary of the subject, has covered a very broad field in his article. I wish to add a word in regard to the different studies, or number of subjects, that the medical colleges consider sufficient in equipping students with an adequate course of instruction in every department of the healing art. How much of the various branches they undertake to teach is a matter that varies in different institutions, but I think that each course of instruction, and the specialties in particular, ought to be fairly comprehensive, so as to impart a working knowledge of the various branches. The general practitioner enters the field of the specialist only to a limited extent; but I think he ought to understand enough about the various specialties, such as the eye, ear, nose, and throat, to enable him to act intelligently in all cases, and to know when to call in a specialist. I believe that this is the age of specialism, and that every member of the profession ought to confine himself more or less to some particular line of work and study, or to the treatment of some special group of organs. I believe that the sign we see so often, bearing the announcement of "Dr. Blank, Physician and Surgeon," will soon be a thing of the past. The field of medical work has already attained to vast proportions and is still a growing one, and it is making such rapid strides that the physician and the surgeon are alike taking up specialties in their respective departments. Some are engaging in general or abdominal surgery, others in rectal surgery, and still others in the surgery of the genito-urinary organs. And this is true, not only in medicine, but in other professions and lines of human activity, such as law and commercial enterprises. The successful lawyer takes up a specialty. It may be corporation law, the matter of debts and collections, mining law, or contracts; but the all around lawyer is disappearing and no longer does he undertake to cover the whole field. It is the same again in agricultural and other pursuits. The successful agriculturist studies certain kinds of food products, the cultivation of fruits, irrigation, or some other specialty, and he is consequently more successful than he who undertakes active work in the broad field of agriculture and horticulture. A few years ago physicians began to take up what are today well established specialties, such as the eye, ear, nose, and throat, but today there is a growing tendency on the part of the specialist to be even less general, and we find as a consequence that the specialists are taking up "specialties," treating only one of these organs, as the eye or the nose. And I believe that if we confine ourselves to a part of the body, and do not divide our attention and energies, we shall make greater progress than we have in the past, and likewise do better work; and the work so accomplished will be more satisfactory to our patients and equally gratifying to ourselves.

Dr. Root: I simply want to say a few words bearing upon the topic we are discussing, and will illustrate my remarks by citing you a case to show how the same applies to the remarks of Dr. Snow. It shows how very important it is to make an early diagnosis of some of the conditions that Dr. Snow has touched upon. This child, which was suffering with adenoids, became ill, and the diagnosis was that of measles, and I had this case of measles to treat. The patient passed through the various stages of the disease, the usual conditions prevailing in this affection being present, but after the child was apparently almost well, and was able to be up and around, there developed a disease of the middle ear, and the troubled condition advanced very rapidly. I immediately called in a specialist who is devoting his time to the ear almost exclusively, but in spite of all efforts to prevent a fatal issue the child was dead within three days. He died of abscess of the brain. An operation was done on the second day from the onset of the symptoms, at which time I was able to recognize the true nature of the disease; so the case was referred at the earliest possible moment to the ear specialist, but the child died soon after the operation, and as a result of the extension of an infective process through the mastoid cells, rapidly involving the lateral sinuses and other parts of the brain.

Dr. Snow: There is but very little more that I care to say as coming within the scope of my subject; however, I will add, with your kind attention, that it is only about a week or so ago since I saw a case in which there was some involvement of the cornea of the eye. There had been an extensive laceration, and rupture had taken place, permitting the escape of most of the vitreous humor, and the eye itself as an organ of vision was hopelessly ruined. It happened, however, that the patient was very weak and low, and died soon afterwards. The fatal issue was not due to any neglect on the part of the attendant. If the patient had recovered it might have been a bare possibility that the eye could have been saved by appropriate treatment, but as the patient died it becomes a matter of pure speculation and makes no difference.

THE TREATMENT OF PRIMARY AND SECONDARY SYPHILIS*

By H. S. Scott, M. D.

SALT LAKE CITY, UTAH

This paper will be narrow, touching but a few salient points, and by no means will the subject be exhausted, nor even partially covered.

The initial lesion has been variously and indefinitely defined. No absolute rules or descriptions fit it. The normal chancre is plainly hard to mistake, with its cartilaginous indurated border, and translucent, smooth center, but how many of this rare variety are encountered?

The bacteriology of syphilis is still indefinite, though our German friends, like the Chinese, claim everything in this respect; yet we honor them.

The ordinary chancroid heals slowly, and two to six weeks will effect a cure. Its history and accompanying adenitis may simulate syphilis, and again mixed infection may be present in an apparently simple chancroid. The sore may heal promptly, and be followed by the usual symptoms of secondary syphilis. A septic sore, a chancroidal sore, an ordinary cracked lip, an apparent stricture with accompanying discharge, a tonsillitis, a slight abrasion, a herpetiform eruption, and a multitude of others may represent the initial lesion of syphilis.

The age of the patient is of no moment; the occupation and status in life of less. The history is of little moment, except the history of a suspicious contact followed by a rigid investigation.

At this stage misdirected and over-officious interference may cause much unnecessary mental and physical sorrow and discomfort. The treatment should not be begun until the diagnosis is absolutely confirmed, except in cases where the prominence of the sore, as on the face, would elicit public comment, and even under these circumstances it is well to wait as long as possible. In the ordinary case wait for a period of two weeks to three months, and treat the sore as a surgical wound.

Excision is of value, yet of doubtful value. The secondary stage may be delayed, that is all—delayed long enough, perhaps, to cause the patient and physician to become lax in their vigilance resting secure in the idea that another lucky escape has been recorded.

Yet, again, the secondary stage may be so slight as to be overlooked, or may never appear, and the case may pass directly into the tertiary stage, or the case may end in the secondary stage.

Where shall we look for the initial sore? Better ask where not look for it. My experience may be unique, but I have long ago ceased to be surprised at the location of the initial lesion, and have decided that the secondary stage begins when discovered, days and weeks have no bearing. This fact is borne out in the following case: Early in November, 1904, a young man came to me by direction of his father. The young man gave a history that would indicate that he would have been lonesome if he was without a specific urethitis. He stated that he had been treated for a stricture. This treatment began about the 15th of August, 1904. About the first of September the stricture apparently became of a narrower caliber, and now a hard, painless mass about the size of a hazelnut could be felt in the perineum. This was nearly three months after the treatment for stricture began. The examination of the urethra revealed a slightly abraded surface. No definite diagnosis was made at this time. One month after, or the 18th of December, having kept a close watch on the patient, the secondary symptoms of syphilis appeared. Under treatment the initial lesion in the membranous urethra cleared up. This patient was infected by unclean instruments, and in no other way.

Seventy days after incarceration in the county jail, an initial lesion appeared on one of the inmates. This lesion was as nearly typical as it has been my fortune to observe.

I may be getting credulous, yet I have a great deal of sympathy for the young man that runs into a cart while crossing a vacant lot on a dark

*Read before the Utah State Medical Association, May 9 and 10, 1905.

night, and thus explains his condition. Nine-tenths of your patients will not lie, and the other tenth will do their best to put you on the right track. Suspicion is aroused regarding the fellow who takes a section of any old sore and squints at it, then grandiloquently gives you the history, etiology, pathology, bacteriology, terminology, age, color, and general appearance of the patient and source of infection. I admire a colossus.

The text-books will give you a fair working knowledge; the well colored plates a better one. The text-books you have. I will not attempt to quote. Read, and keep on reading; then if you have any spare time study your patients individually and collectively. Diverse and unrecorded forms will present themselves in devious ways unheralded and unforetold.

Treatment.—Any druggist, gambler, prostitute, osteopath, Eddyite, broken-down old sport can give definite and concise directions. The merest tyro has the treatment at the tongue's end. Potash and mercury, of course!

I have little to say in regard to this subject, yet it is all important. Each case is law unto itself. The form of mercury used early in the secondary stage is a matter of choice. The patient should be carefully instructed, and then, if possible, see that the instructions are carried out. The mouth should have special attention, and the teeth should be cleaned by a competent dentist who has been warned. A soft tooth-brush should be used three or four times a day, using some bland antiseptic paste, powder, or liquid. The throat, mouth, and nostrils should be kept clean with some alkaline antiseptic. The emunctories should be kept active and the kidneys watched for any derangement. Watch the weight, diet, and general hygiene. Then select some form of mercury for the secondary stage. Use it judiciously, but in sufficient quantities to gain your object—complete saturation. Keep your patient under whatever form of mercurial treatment you may select, for as long a period as possible, and maintain saturation if possible. Do not use opium indiscriminately. The amount given is of no moment, but how much absorbed is the question. I use a little camphorated tincture of opium in some cases. If five minims are sufficient for comfort that is all that is taken. Treatment may have to be intermittent because of the extreme discomfort, but this method is not advisable under ordinary circumstances.

Cases are found that are intolerant of mercury by mouth, then the inunction or hypodermic can be used. In congenital syphilis a rubber cloth or oiled silk in the diaper or under the binder is a convenient way to give inunctions to the infant. I seldom use mercury by mouth in syphilis in infancy.

In that indefinite transitional period, seen in some cases, who have been mistreated, where neither the secondary nor the tertiary period is marked, I combine the mercury with the iodides, and later use the iodides. If necessary, combine with some arsenious preparations. If the course of treatment has been correctly carried out rarely will any symptoms of the tertiary stage present themselves.

The serum treatment would seem to be ideal, yet some facts and fallacies have to be overcome. The latest news from Germany indicates that Troy has fallen, and seventeen cases have been treated with marked success. All are alive, and one apparently has made a complete recovery. N. B.—Some doubt has been expressed as to the correctness of the diagnosis in the case reported cured.—Associated Press.

When should treatment cease, or when shall we consider the patient as cured? When every trace of the malady has disappeared, and when, after a lapse of years, there is no recrudescence. Then may you consider that your patient is convalescent. Time alone is the true criterion; yet if, after a lapse of two or three years, no reappearance has occurred, you can feel at least that your efforts have not been in vain. I attempt to keep my patients under active observation for at least two years.

Dr. Frank Mracek of Vienna says, in his recent book, that his average cases take thirty inunctions, covering a period of thirty days, and as active symptoms have been allayed they are discharged as cured. Over half the cases reported have been sent from his institution before I should like to send patients away as cured under similar conditions.

The length of time during which the patient should receive treatment is an unsettled question. Authorities vary, cases vary, and treat-

ments vary; hence your own judgment is the best in any individual case.

Home treatment I believe the best, but if the surroundings are bad and the case hard to control, hospital treatment, or some of the sanitariums will be the last resort.

I have avoided mention of complications. If diet, hygiene, treatment, etc., are strictly followed few, if any, bad conditions will arise.

DISCUSSION

Dr. Geo. E. Robinson: I do not know what I could add to what has been said, as the article appears complete in itself; but I will call your attention to one point which I think we should always bear in mind, as it affects the result of the treatment very materially. We should prevent these patients from falling into the hands of advertising quacks, which comes from insistence upon waiting till the diagnosis is made. There is a great temptation when you see a case with the initial lesion, and you feel morally certain that it is a chancre, of course there is always that little doubt that it may not be a chancre, and if this doubt is not cleared up you are going to have endless trouble in treating it. In my student days I saw many of these cases, but now in my practice I do not recall that I have any under treatment, but I have had some six or seven cases. In treating these cases I believe I went into the subject as carefully as the general practitioner could; and in every instance I did not commence treatment before the secondary symptoms developed. In one case the patient insisted upon coming to Salt Lake City to see an older and better man than myself. He did come up here, and he got the same story from the physician here, and then I was able to stand him off until the diagnosis was made, which was a matter of only six or eight weeks. He then developed the characteristic rash, which disappeared in about a week after appropriate treatment was commenced. In time symptoms of mercurialism occurred, and he was allowed to discontinue. Then the rash reappeared on the chest, abdomen, and other regions, and treatment was resumed immediately. I kept this case under observation for two years and six months. After a long while he developed an iritis, and when this occurred I suggested that it would be best for him then to consult one of the specialists, because I felt there was some risk in undertaking to treat this condition successfully, and I did not care to undertake it myself. As he was not willing to have others know anything about his affection, I undertook the treatment of it, and within two or three weeks it entirely disappeared. It has been a little more than a year since he developed the iritis, but there have been no symptoms of any kind since. He is still unmarried, but I think it would be safe for him to marry now, should he feel inclined to do so.

In another case the patient insisted upon getting married as soon as constitutional symptoms disappeared, and as soon as he began to feel well. I had much difficulty in dissuading this man from carrying his notions into effect. I took down various works of reference, lithographic plates, text-books, and everything available to show him the folly of his intentions, explaining the danger of transmitting the disease to a person of the opposite sex as well as inflicting the disease upon an unborn infant. I succeeded in having him wait two years before he married. I believe treatment should be given continuously, that the patient should be kept saturated with the recognized specifics, at least up to the full toleration, and that treatment should be continued for a period of at least two years. It is not well to make promises of any kind to patients, as evidences of the disease are liable to make their appearance at almost any unexpected time.

Dr. Scott: I simply want to bring to your attention, in a sort of résumé, the plan that I usually follow out in these cases. The physician encounters a great many obstacles in the treatment of this disease, not that it is difficult to treat or influence, but the difficulty lies in not being able to keep patients under a continuous medication for a sufficient period of time. The simplest way to treat your patient is to get his money, and this you can get by having an iron-clad contract with him; and if this is not done you cannot benefit him. I believe that nine out of ten are over-treated. I call particular attention to the mouth and the teeth, and if this is looked after you will not have trouble with sordes. Now this very condition, or a condition similar to syphilis itself, arises from the administration of the iodide of potash when it is carried to excess. The choice of the drug rests with you. I have no special system of medication that I consider suitable to all cases. The chancre may appear elsewhere than on the genital organs, but I believe the disease is, with rare exceptions, contracted by the genital chancre.

ECTOPIC GESTATION COMPLICATED BY MENTAL DISTURBANCE

F. G. Hodgson describes a case of ectopic pregnancy in a woman twenty-three years of age who had always been nervous and had had hysterical attacks. Shortly before the operation she began to have hallucinations, and after the affected tube had been removed the mental condition became worse. After the sixteenth day, however, her mind began to clear up, and since the twenty-first day there has been no further mental disturbance.—Medical Record.

ST. BARNABAS HOSPITAL

MINNEAPOLIS

A PECULIAR CASE OF DYSPHAGIA

In the Service of Dr. C. P. Aling

Georgie G——, aged 7 years, was brought to me because of general malnutrition. His family history was unimportant. He has had no serious illnesses.

He was a perfectly normal child at birth, and passed without incident through the stages of infancy and dentition. He was nursed without difficulty by his mother, and gave no signs of any abnormality until at the age or about 15 months, when an attempt was made to introduce solid food into his diet. This he steadfastly refused.

As he grew older every effort was made, and made repeatedly, to induce him to take various forms of solid food. But with no success. Soup and broths he swallowed, but showed no inclination for them. When forced to admit small food particles into his mouth he was either unable or unwilling to swallow them. His diet had consisted up to the time I first saw him of milk and sago. Of milk he was drinking about two quarts daily.

He has been extremely constipated at irregular periods.

In general appearance he is somewhat undersized. He weighs 37 pounds. He is of rather exceptional intelligence. His limbs and upper thorax are emaciated; the abdomen is enormously distended; the lower ribs bulging.

There is no obstruction in the pharynx nor esophagus as far as can be determined. The teeth are good and there is no abnormality of the mouth.

On percussion the stomach is made out to be greatly distended, the pylorus reaching to about the level of the umbilicus.

The child was put on tonic treatment—cod-liver oil and iron, and the mother urged to insist upon the use of some solid food. She returned in a few days, stating her utter inability to persuade the child to swallow a mouthful. I then gave him a morsel of bread, and after many threats I induced him to put it into his mouth. He seemed ignorant of the method of mastication. For about five minutes he held it in his mouth, moving it about on his tongue, but in the end he swallowed it.

Gradually I have been able to increase the amount of bread taken. At present he will eat a piece two inches square together with an egg, and even asks for this. His constipation has been relieved with orange juice.

He is gradually improving in weight and general appearance.

A CASE OF URETHRAL STRICTURE WITH FORMATION OF FALSE PASSAGE

In the Service of Dr. D. C. Cowles

Mr. A——, aged 41. When 18 he had gonorrhea, for which he took patent medicines. He was eventually cured with the usual strictures. Between the ages of 28 and 31 he traveled over the country with a circus, and became a hard drinker.

As the strictures began to annoy him, he went to various physicians, good, bad, and indifferent, all of whom passed sounds until the filiform was the only size which could be passed. He has been in this condition for the past eight years.

When he came to me I advised an operation, to which he consented. He was sent to St. Barnabas Hospital, where I operated upon him, July 14, 1905.

The urethra was opened through the perineum. The incision was extended to what I considered perineal muscle, and a drainage tube was inserted. The bladder apparently emptied itself. About one and one-half inches of solid urethra was found, beginning about four and one-half inches from the meatus, with a false passage lying beside the closed tract. This was dissected out, and a soft rubber catheter inserted.

Everything went satisfactorily until July 22d, when the bladder suddenly ceased to drain. When it was found to be impossible to obtain any drainage through the perineal opening, a second operation was decided upon at once. Dr.

Rochford was called in to assist with the case, and the patient was sent to the operating-table.

No opening could be found into the bladder through the perineum; hence a suprapubic incision was necessary.

The wall of the bladder was found to be thickened an inch or more. When this was opened it was discovered that a false opening had been made into the posterior wall of the bladder, just above the trigone. Through this opening the urine had collected into the space between the bladder and the rectum, thus making a false bladder, from which it had passed by means of a false urethra through the penis. An effort to close all this fistulous tract was plainly evident.

The man has made a slow but sure recovery. At present he is able to pass a 25 French sound, and he is in better general health than he has been for years.

A CASE OF MUSCULAR RHEUMATISM COMBINED WITH NEURASTHENIA

In the Service of Dr. J. T. Moore

Reported by Jno. C. Jacobs

Mrs. O——, aged 18, of Norwegian descent.

Family History.—Mother is insane, and has been crippled with rheumatism for the last ten years. One sister also insane. Otherwise unimportant. Patient has always been troubled with leucorrhea since the age of 14. Has had intense dysmenorrhea, which has obliged her to remain in bed during her menstrual periods.

She was married ten months ago, and gave birth to a child on April 1st. She was attended by no physician. During gestation, and for two or three days after her delivery, she was in good condition. Then she began to complain of pains in her sides; first in the left, then in the right. The pain soon disappeared, to return three weeks later when she "caught cold." This time the pain was in the right side of the abdomen and chest. Relief was obtained by the use of local applications, but she continued to suffer from general malaise, backache, and headache. She was able to be about until one week before entering the hospital, although for four weeks previously she had been at times confined to her bed. The pains were most severe in her back and sides, although they later became general. The pain in her chest became so severe as to render a deep breath impossible. Her physician stated that she had had no temperature.

Upon entering the hospital she complained of not only the pains, but of constipation, heart palpitation, and a heavy sensation in the epigastrium after eating. Her temperature was 99.8°. Thereafter, however, with one exception, it never reached higher than 99°. Her appetite was good. Globus hystericus was an annoying symptom.

Physical Examination.—The entire abdomen was sensitive upon deep pressure. There was no tympanites, no localized tenderness. The chest was negative.

The perineum and cervix both showed recent laceration. The uterus was in the position of right lateral version. A slight, yellowish discharge oozed from the os uteri. The urine was of rather high specific gravity, and showed a trace of albumin. The indican was increased; acid oxalates were absent.

Blood examination on the seventh day showed a leucocytosis of 10,200 with the hemoglobin at 82 per cent.

Treatment.—On entering the hospital she was put on a milk diet, which later became semi-solid. The bowels were kept well opened. In other respects the treatment was at first purely antirheumatic in nature. Salicylates in the form of aspirin, were given in 15-grain doses every four hours. To this was added salfene, grs. 5, every two to three hours; strontium salicylate, 15 grs., every eight hours, until there was obtained ringing in the ears, etc. Hot applications and bandages were also used for the relief of the pain. When it was found that vague pains still persisted, all drugs, with the exception of aspirin, were discontinued, sodium bromide being now substituted. Later, massage, hot-air baths, static electricity, and a tonic consisting of iron, arsenic, strychnine, and sumbal, were added to the salicylates, with the result of rapid improvement of all symptoms. She left the hospital July 29th, practically well.

This case is of interest because of the difficulty of distinguishing between the pains which were undoubtedly rheumatic and those illusory ones due to the neurasthenia.

DEACONESS HOSPITAL

GRAND FORKS, N. D.

A CASE OF GUN-SHOT WOUND WITH SIXTEEN PERFORATIONS OF THE BOWELS — OPERATIONS, AND RECOVERY

In the Service of J. E. Engstad, M. D.

In case of all injuries to the abdominal cavity, celiotomy should be performed with all possible haste, for only by direct examination can the condition of the viscera after the traumatism be ascertained.

In gun-shot wounds it is, of course, criminal at this date to postpone operative interference even a moment, for moments lost may mean a life lost.

The extent of injury to the contents of the abdomen is often in direct proportion to the expected, for in case of a rifle or pistol shot there may not be any, or only one or two, perforations if the bullet's course is directly backwards; but in case the missile takes a course at right angles to the anterior part of the body, the whole viscera is in the track of the bullet, and a number of perforations may be looked for, because this part of the cavity is the natural place for the larger intestines.

It should be the duty of every physician practicing in the smaller towns to be able to operate at a moment's notice on any traumatism of the intestinal tract, as the delay of sending for a surgeon at a distance may prove fatal to the patient. Worthless dogs are always with us, and at the expense of a few useless canines any physician can easily become conversant with the necessary technic, for without technic surgery of the intestines cannot be successfully performed.

In response to a telephone summons on the 16th of June, I drove into the country, a distance of twelve miles, and found that a young lady, aged eighteen years, had been accidentally shot by a high-power, small-calibre rifle. The ball had entered the upper and outer margin of the left inguinal region, taking, from the history of the case, a diagonal course through the abdominal cavity.

Removal to the hospital at Grand Forks was hurriedly decided upon. A stretcher was improvised, and the patient was carried nearly a mile to the railroad track, where a passenger train was flagged, and the patient brought to the city.

Preparations for operation were hurriedly made. The abdominal cavity was opened on the line of entrance of the bullet, a large quantity of blood was removed, and a perforation of a large branch of the superior mesenteric artery, which was found cut, was ligated. Search for other perforations was immediately made in a systematic manner by first bringing the upper part of the jejunum out in the incision and following the intestinal track downward. In all sixteen perforations were found, some of them so close together that, virtually, resection had to be resorted to. In closing the perforations the edges of the wound were trimmed, smoothed, and made elliptical by trimming with sharp scissors, sewing the mucous membrane by continuous overhand sutures, while the serosa was closed by Czerny-Lembert sutures.

On account of the somewhat weakened condition of the patient, and the length of the operation, which consumed over an hour and a half, no special search was made for the bullet. Although the operation was tedious on account of the repeated examinations of the whole intestinal track for possible overlooked injury, the patient did not sustain any pronounced shock, and was put to bed in good condition. On the next day quite pronounced jaundice was discovered, due to chloroforming poisoning of the hepatic cells of the liver, which gradually disappeared in due course of time. On the sixth day after the operation, a slight rise of temperature was noticed, and at the same time a marked infiltration was found in the right inguinal region, which was explored under an anesthetic, and a large pyogenic membrane, undoubtedly a staphylococcus colony, was removed. This membrane was extraperitoneal, and was due to an infection from the bullet, which had passed through the structures of the abdomen posterior to the colon.

The patient was kept in a semi-reclining posture, and to this precaution I credit, in a great measure, the patient's recovery, for on the tenth day a rise of temperature indicated an infection, and on vaginal examination, a thickening was

found in the cul-de-sac of Douglas. This was drained of considerable débris, coagulated blood, and a few pyogenic shreds.

From this on the patient made a rapid and uninterrupted recovery, and was discharged, fully recovered, three weeks after the injury.

IN PRIVATE PRACTICE

MINNEAPOLIS

TWO CASES OF RELAXATION OF THE UTERUS DURING CURETTEMENT UNDER ANESTHESIA

By Florence C. Baier, M. D.

Case 1.—When I had been in practice six months, J. K——, unmarried, 24 years old, a prostitute who had given birth to one child, came to me for treatment for endometritis, menorrhagia, and metrorrhagia. Treatment and medicine availed little, so on Nov. 30, 1898, I decided to curette her, at her father's house. I used all aseptic precautions and at first administered the anesthetic myself, giving it finally into the hands of an assistant, not a physician, but watching and directing every drop given.

It was my first curettement. I inserted the curette, a sharp one, after slow dilatation with Goodell's dilator, just within the internal os. I gave three scrapes with the curette, and withdrew it to inspect the character of the scraping. After a few minutes, perhaps not more than one minute, when I had felt the radial pulse and given some directions to the anesthetist, I again inserted my instrument, intending to curette the endometrium. Imagine my horror at finding no endometrium. My instrument, inserted to the handle, failed to touch the uterine wall in any direction. I withdrew it, and inserted, successively, a long pair of dressing forceps, and a uterine irrigator, 10 inches long, with like result. No uterine wall did I find. I was irrigating with hot water, but a moment later was thoroughly frightened, for I reflected that it would pass into the peritoneal cavity through a perforated uterus.

I put my patient to bed, expecting to see her die of hemorrhage or shock. She began to vomit, and kept me busy for four hours, during all of which time I was tortured with the thought that all this was not the thing for a perforated uterus. I left her, however, with a good pulse, and had had time to reflect that my instruments were all of different curvature, and therefore it was not likely that each one of them would pass readily through a small opening. I could not see how I could have perforated the uterus at all, either with dilator or curette, and neither could I believe that there was an extensive rupture of the uterine wall. There was no hemorrhage, and the patient was soon up.

I spoke of the occurrence to a surgeon of note, and his reply was that probably the uterus dilated under the influence of the chloroform.

In the American Journal of Obstetrics for July, 1905, p. 73, Dr. Palmer Findley says: "I have repeatedly noticed the uterus relax under the irritating influence of the curette. In several cases so great has been this relaxation of the uterus I have feared that I had perforated the uterine wall, but on careful manipulation of the curette, the depth of the uterine cavity was found increased in all directions."

Since my first hair-raising experience I have constantly searched books and periodicals for an experience analagous to my own, but have never seen mention of such a thing, until I noticed Dr. Findley's statement, as quoted above, in his article on "Arteriosclerosis of the Uterus."

Case 2.—E. J——, aged 29, married, mother of three children, two weeks after the birth of her last child, had been committed, a victim of puerperal insanity, to a state hospital for the insane, where I was resident physician in charge of the women's wards. She had been violently insane for six months, but had begun to recover when I observed that her abdomen was increasing in size. Her husband had visited her some three months previously, and pregnancy was a remote possibility. The bowels seemed much distended, but it was almost impossible to administer medicines or give enemata, or to make an examination. She was therefore anesthetized, and a high rectal enema was given. By bimanual palpation I found the uterus to be of normal unimpregnated size. Before taking chloroform she drank a couple of large bottles of beer, and only a minimum amount of chloroform was required to induce complete anesthesia. On examination per speculum a glairy discharge was found issuing from the cervix. The superintendent, who was himself administering the anesthetic, suggested that I curette to cure the endocervicitis. I measured the uterus with my sound, and I found it of normal length, I inserted the curette into the cervix, partially scraped it, and, as before, withdrew the instrument. After a brief pause I inserted the curette intending to curette the endometrium. My instrument went in eight inches without touching uterine wall at all. Other instruments of different curvature were inserted full length with like result. The patient was taken to the sick ward, kept on light diet, in bed for a week, without rise of temperature and without variation in pulse or any unfavorable symptom. It was impossible to examine her. However, the distended bowel never returned, and she seemed no worse for an experience which is not soothing, to say the least, for an operator.

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OCTOBER 1, 1905

THE LOW DEATH-RATE IN THE JAPANESE ARMY

The medical men of the United States, and no doubt also of Europe, have wondered at the low death-rate reported from the Japanese army during the recent war. While the reports have been almost incredible, it stands to the credit of the medical men of the world that they have not been heard to express doubts in order to excuse the much higher mortality in all modern Western wars. If the Japanese have obtained such phenomenal results, all that medical men want to know is, "How did you do it?"

But we now have—and it is a pity that we have—reliable evidence that Japan has "fool friends" who have been juggling with both facts and figures. As this issue of The Lancet is going to press we learn through Associated Press reports that Dr. Charles D. Stokes, of the United States army, produced facts at the meeting of the Association of Military Surgeons, now in session at Detroit, Mich., to show that no such results as reported were obtained in the Japanese army.

We sincerely hope that official figures will yet show that the Japanese have done a work that has never been done before. Such a thing is possible, indeed, very probable, and yet, if true, an easy explanation may be found which will remove all discredit from American medical men. Our surgeons and sanitarians have been preparing the way for just such results, and, be it said to their credit, the Japanese medical men have the ability to carry into practical effect the knowledge along these lines put at their disposal by the scientific men of the world. And they have another advantage over, perhaps, all other armies. The Japanese soldier never disregards orders. A command concerning the minutest sanitary precaution is as sacred to him as a military order to an American, a German, or an Englishman. To the latter an order that concerns apparently only his own comfort will not receive the ready and strict observance that the purely military order receives. The American is too strong in initiative to make possible results such as can be obtained from the readily obedient Japanese, with other conditions equal. For similar reasons American cities do not have as clean streets as are to be seen in many parts of Europe, but all these comparisons must be made with great caution.

It takes a profoundly scientific man to see all the differences in things that look alike, and until we have the indisputable facts concerning the death-rate of the Japanese army, we must suspend judgment, and, in the meantime, hold onto some things that we have learned in surgery. It is a long way from the splendid results obtained in modern surgery by the free use of the knife to the results now claimed for a let-alone policy in the treatment of gun-shot wounds.

THE "BONE-SETTER" IN JAIL

We have no disposition to rejoice over the downfall of any man, or to make illegitimate use of such a misfortune; but we see so plainly the connection between W. C. Arons' crime as a physician and as a man that we cannot forbear to point it out. His practice of bigamy, which he now confesses and for which he is in jail at Aitkin, was a crime against society and particularly against two women, whom he made his wives; his practice of medicine, in a form he called "bone-setting," was a greater crime against society, and particularly against a large number of men, women, and children who stand in special need of the protection of law, because of their infirmities of mind, as well as of body. Upon this class Arons fed fat, and is said to

have made as high as $60,000 a year. He lived in princely style, and employed the best legal talent to keep him out of trouble with the law. His disregard of the law and of the rights of his poor, weak-minded victims, no doubt led him into his present predicament.

Now, we ask, Why should not people see that a man who pursues the course of Arons, in his pretended practice of medicine, is a man capable of fleecing them out of their money even at the expense of their health? Why can they not see that a man like Cooper, who was so recently among us, is simply a criminal who is able to avoid, by shrewdness, the penalties of the law? Why can they not see that the venders of "liquozone" are in the same class, and would be in such class were "liquozone" equal to any drug known to man? Again, why cannot the medical profession educate the laity sufficiently to enable them to see these elemental facts?

AMERICAN MEDICAL DIRECTORY

The A. M. A. is now collecting data for its general directory of the medical profession in the United States and Canada, and will issue the book early next year, the price of which has been fixed at $7.00, with a discount of $1.00 to members of state or county societies.

This directory is not undertaken as a money-making enterprise, but in the interest of the medical profession. It is certainly much needed, for the only other available directory is about as valuable as a last year's almanac. One of its most valuable features will be the absolute reliability of the information pertaining to degrees claimed by physicians, for this information will be verified from official sources.

THE FIGHT ON PATENT MEDICINES

Two of the largest circulating journals in the country, The Ladies' Home Journal and Collier's Weekly, have been merciless in their pursuit of patent medicine fakirs. The only medical journal which has systematically attempted to follow is The Journal of the A. M. A. Other medical journals have, on occasions, published editorials on the subject, but such writings circulate among professional men only, while the non-medical journals reach a wider field, and a class that needs the information they contain.

If the medical men could reach a state of peace and quiet, and live harmoniously with one another and fight for the good of the people, there would be a more rapid extermination of the patent medicine pest. As long as physicians are unable to concentrate their efforts by a harmonious combination, little can be done in the way of education of the people by example or legislation. It is only by persistent action that the public will understand the dangers of many patent medicines. In some of the states and in many foreign countries patent medicines are not on sale. The state law prohibits the sale of any nostrum unless it is accompanied by the formula. In England Mrs. Winslow's Soothing Syrup is labeled "poison." In Germany many of the bottles that are freely drained in this country are not permitted to enter the Kaiser's realm.

The Ladies' Home Journal has done much to educate the people as to the quantity of alcohol contained in many of the supposed reputable patented articles. Analyses have been made and formulæ boldly published. The last resting-place of the late Lydia Pinkham, who died May 17, 1883, has been visited by an investigator, and a photograph of the monument which holds her remains in place has been published side by side with one of her advertisements asking her lady friends to correspond with her confidentially on the subject of their pelvic disorders!

Collier's has been hard after "Peruna," but what can be accomplished when newspapers will accept Dr. Hartmann's "interview" advising New Orleans residents to take freely of "Peruna," as it is an antidote to yellow fever? When the newspaper man shall cease the publication of patent medicine advertisements, and fill his columns with legitimate matter, then perhaps the people will get the "news." Education of a medical nature must be presented in acceptable form, simply and plainly, in order that the people may appreciate what harm may come from unscientific dosing. If there is too much abuse of patent remedies, the people will drink them out of sympathy for their promoters; if, on the other hand, they know the contents of the bottle are either harmful or harmless and that a correc-

tion of diet and proper physical exercise will do as much for them as drugs, the time will come, slowly, when the vender of nostrum will seek other occupation.

The crop of fools born every year is large, and it may take ages to inform the masses in matters pertaining to their bodies and the needed remedies.

Perhaps if doctors and druggist would get together, there might be a better understanding. A cut-rate or quack druggist is as offensive to public morals as the worst form of quack doctor. Help the good work along.

BOOK NOTICES

A Text-Book on Obstetrics. By Adam A. Wright, B. A., M. D., Professor of Obstetrics, University of Toronto. Illustrated 8vo. Cloth $4.50. New York: D. Appleton & Co.

A new text-book on obstetrics ought to have very strong points to justify the multiplication of books of this kind; and as much new or original matter cannot be expected, the book must be justified mainly by its arrangement and treatment of the subject, and the apportionment of attention and space given to the various parts of the subject. In both these respects Dr. Wright is to be commended. He brings knowledge and experience to his task. He is a lucid writer, and has produced a book that is of service, not alone to the student, but to the general practitioner.

Diseases of the Heart and Aorta. By Thomas E. Satterthwaite, M. D., Professor of Medicine in the New York Post-Graduate Medical School; Consulting Physician to the Post-Graduate, Orthopedic, and Babies' Hospitals; President of the Medical Association of the Greater City of New York. New York: E. R. Pelton.

As books go, this volume of 300 pages is not large, yet by omitting the elementary and the unusual parts of the subject, the author has made an excellent presentation of his subject. Surgery of the heart, very properly we think, receives very little attention; but treatment in detail, both as to drugs and mechanical means, is full; and thus the medical side of the subject has due recognition.

Findley's Gynecological Diagnosis. A Treatise on the Diagnosis of Diseases of Women. For Students and Practitioners. By Palmer Findley, B. S., M. D., Assistant Professor of Obstetrics and Gynecology, Rush Medical College in affiliation with the University of Chicago; Assistant Attending Gynecologist to the Presbyterian Hospital, Chicago. In one octavo volume of 588 pages, illustrated with 222 engravings in the text and 59 plates in colors and monochrome. Cloth $4.75. Philadelphia: Lea Brothers & Co.

The rapid changes in the manner of diagnosing and treating gynecological cases may be sufficient excuse for the large number of new works on the subject now offered to the profession, but it is poor excuse for the poorness of many of the works. It is well, then, that a man like Dr. Findley, with a very extended experience, offers us a new edition of his work on gynecological diagnosis.

His work may be said to be very complete, if, indeed, not exhaustive, so far as the needs of the general practitioner are concerned. Over 100 pages and many engravings and colored plates have been added to this edition, and one thing is worthy of notice: the illustrations illustrate. We have never seen better drawings, both wash and line, and the photographic halftones and colored plates are very fine.

The new matter on blood examination, differential diagnosis, bacteriological examinations, etc., add much to the value of the work.

NEWS ITEMS

Dr. H. H. Hodgson has moved from Fisher to Crookston.

Dr. F. J. Bohland, of Belle Plaine, is home from his European trip.

Dr. O. E. Rodli, of Albert Lea, has gone to Europe for a year's study.

Dr. E. E. Harrison, of West Concord, is doing post-graduate work in Chicago.

Dr. J. A. Du Bois, of Sauk Centre, is home from an extended European trip.

Dr. A. W. Boslough has decided not to continue practice at Ellendale, N. D.

Dr. Burton Adams has moved from Hazel, S. D., to Bristol, in the same state.

Dr. S. G. Eghian has moved from American Forks, Utah, to Ogden, in the same state.

Dr. R. G. Stevens, of Springfield, S. D., has located at Brewster, as successor to Dr. Geyerman.

Dr. R. B. Hixon, of Cambridge, was married last month to Miss Minerva C. Barker, of Herman.

Dr. A. W. Allen, of Austin, was married last month to Miss Nellie Sutherland, of the same place.

Dr. Frank E. Larson, State University, '02, died in July at Parker's Prairie, of tuberculosis, at the age of 29.

Dr. Christian Jelstrup, of Vining, has opened a private hospital for the treatment of surgical and nervous cases.

Dr. Dorman Baldwin, of Jamestown, N. D., was married last month to Miss Flora A. Shearer, of Oneonta, N. Y.

"Hospital assured" is the last word from Albert Lea, where the agitation for a new hospital has lasted for over a year.

Dr. Edward Meyer, who has been practicing at St. Cloud for a year, will return to Michigan and resume his old practice.

Dr. Walter V. Gulick, of St. Mary's Hospital, Rochester, was married last month to Miss Eleanor Brooks, of Grafton, Ontario.

Dr. G. E. Ricker, a prominent homeopathic physician of Minneapolis, formerly city physician, died of heart disease last week.

Dr. H. E. Canfield has given up practice at Sharon, N. D., and will spend a year in a Minneapolis hospital and then locate elsewhere.

Dr. C. W. McDade, of Ceylon, was operated upon last month for ulcer of the stomach at Rochester. He is at home, and is doing well.

Drs. Bastianelli and Massini, of Rome, the former court physician to the king of Italy, have been visiting St. Mary's Hospital at Rochester.

Dr. Daniel Tufe, of Hawley, and Dr. A. F. Brisch have located in Fargo, N. D., and now occupy the offices of Dr. Thams, who has moved to Idaho.

Dr. T. P. Martin, of La Moure, N. D., has sold his practice, and after a special course in Philadelphia will devote himself exclusively to eye, ear, nose and throat work.

Dr. G. M. A. Fortier, of Little Falls, who has been a severe sufferer from blood poisoning, has had the middle finger of the right hand amputated, and is now improving.

Dr. W. C. Wren, of Columbus, Ohio, has located at Appleton, forming a partnership with Dr. C. E. Johnson. Dr. Wren has made a specialty of eye, ear, nose, and throat work.

Dr. R. W. Patterson, who has been an assistant in the More Hospital at Eveleth for two or three years, has located at Wadena, taking the practice of Dr. McIntosh, who will retire on account of his health.

"Honor to whom honor is due." Not Dr. J. B., but Dr. Hugh F., McGaughey, of Winona, was made first vice-president of the Southern Minnesota Medical Association at its August meeting.

Dr. L. C. Weeks, of Detroit, opened his new hospital last month. He has erected a well equipped structure, that is a credit to the city and county, and the enterprise deserves public recognition and support.

Dr. J. B. Muir, of Hallock, who went, with his family, to the coast expecting to locate there, has returned without having found a place that he liked as well as Minnesota. He will locate in Minnesota or North Dakota.

Dr. W. S. Wood, of Blooming Prairie, will spend a few months in Europe. His practice will be in charge of his brother, Dr. H. G. Wood, house surgeon of the Montreal General Hospital. They have formed a partnership.

Dr. E. D. Steel, of Mankato, died on Sept. 20th, at the age of 43. Dr. Steel was a graduate of the State University, class of '89, and was president of the Blue Earth County Medical Society, and secretary of the Minnesota Valley Medical Society, at the time of his death. He had been prominent many years in both medical and social circles.

PHYSICIAN WANTED.

A small town in Wisconsin, in a rich farming country, with the nearest physician twelve miles away, wants a physician. For particulars address G. A., care of NORTHWESTERN LANCET.

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NORTHWESTERN LANCET

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SYMPOSIUM ON SUPPURATIVE PROCESSES IN THE ABDOMINAL CAVITY*

OUTLINE OF THE VARIOUS FORMS AND THE ETIOLOGY OF SUPPURATIVE PROCESSES IN THE ABDOMINAL CAVITY[1]

By A. C. Behle, M. D.

SALT LAKE CITY, UTAH

I am forcibly impressed with the rôle that the peritoneum plays in suppurative conditions of the abdominal cavity. Almost all symptoms are traceable to the involvement of the peritoneum, which is intimately associated with those organs of the abdominal cavity covered by the peritoneum, namely: the gastro-intestinal canal, with the associated glands, and the genital organs in the female.

The importance of an involvement of the peritoneum must not be overlooked, as the whole clinical picture may be changed suddenly by such involvement. The prognosis may rest entirely upon the involvement and behavior of the peritoneum. I beg of you to pardon me should I exceed the limits of the subject assigned to me, or if I should seem to dwell too long upon the peritoneum before considering the etiology of suppurative conditions of the abdominal cavity.

Three factors must be borne in mind in dealing with the peritoneum:

1. The extensive surface covered by the peritoneum, and the rapidity with which diseased processes advance over the whole surface.

2. The absorbtive power of the peritoneum by which only part of the surface can become involved, and, on the other hand, the sudden absorption of toxic substances which can injure the whole bodily organism.

3. The resistance of the peritoneum, which by introduced irritants can answer or react rapidly by the throwing out or forming of an exudate. This exudate can be of fibrinous nature, and can cause very rapid agglutinations of serous surfaces, or it can be of a serous material containing a great deal of albumen, which, by rapid decomposition and mixture with leucocytes, will form pus.

In the male the peritoneum has no opening connecting it with the outer world, whereas in the female it has, through the tubes, uterus, and vagina. Diseases of these organs can be the portals of entry for suppurations within the abdominal cavity.

As the peritoneum is the covering of most of the organs within the abdomen, an inflammatory condition of these organs may, by direct extensions, cause suppuration within the peritoneal cavity.

The mobility of the intestine can rapidly spread this process over the whole area, or over large areas, of the peritoneal surface. Bear in mind the many folds of the peritoneum between the organs that favor the encapsulation of inflammatory products, and cause thereby circumscribed collections of pus. The large space between the liver and diaphragm, the subphrenic space, is a good example. Subphrenic abscesses are fairly common.

It is hard to draw a distinct line between suppurative and non-suppurative lesions, as suppuration depends upon many factors in the behavior and reaction of the peritoneum. You may have a fibrinous form of inflammation of the peritoneum closely associated with a serous, suppurative, or gangrenous peritonitis.

*Presented before the Utah State Medical Association, May 9 and 10, 1905.

As I before stated by far the greatest number of suppurative lesions are caused by extension of inflammation from neighboring organs that are anatomically connected with the peritoneum. A primary idiopathic suppuration of the peritoneum is rare.

Let us now consider suppurative conditions within the abdomen of an infectious nature. I mean those conditions due to bacterial infections or from their toxines. It must be admitted from the beginning that the infections are mainly of a mixed nature. Seldom do we have a pure culture of one species of bacteria. The streptococci, staphylococci, and flora of the alimentary canal are the main organisms involved. The bacillus coli communis is especially common. The gonoccoci are sometimes present, and the pneumococcus is also occasionally present. Experiments upon animals made by Gravitz and Wegner and by others have shown that certain quantities of bacterial-infected fluids can be taken care of by the healthy peritoneum, and that other factors must be present to produce suppurative peritonitis. Among these factors must be considered any substance that will injure the vitality of the serous cells, and interfere with their absorptive powers. Insults to the peritoneum of a mechanical or chemical nature, sudden introduction of foreign bodies, as fecal material, blood clots, etc., make it possible for the bacteria to produce their inflammatory reaction. These bacteria find in the thrown-out albuminous exudate a very fine nutrient material for their growth.

These germs of infection reach the peritoneal cavity in many ways: from wounds which open into the cavity of the peritoneum; from the Fallopian tubes of the female, or from organs covered by peritoneum. The immense intestinal tract is normally inhabited by large numbers of bacteria, ferments and toxins. In diseased conditions they can also be found in the associated glandular organs, such as the liver, spleen, and pancreas. From the alimentary canal they can enter the peritoneal cavity through traumatic or ulcerative perforations. They can also wander through a diseased, although not perforated, intestinal wall. This is impossible with a normal wall, but in diseased conditions with a loss of the protective inner epithelial layer, from ulcer or from disturbance of the circulation, the vitality of the intestinal wall is so injured that bacteria can wander through and infect the peritoneal cavity. These changes can also take place from the gall-bladder, Fallopian tube, or uterus.

Kloki has demonstrated that the virulence of the colon bacilli is rapidly increased by association for a short time with other bacteria in a constricted portion of the intestine. Whether chemical ferments and toxines wander through injured walls has not been settled. All parts of the gastro-intestinal tract, from the cardia to the extraperitoneal part of the rectum, can give rise to suppurative processes within the abdomen. They are noted for their frequency and severe character, due to the abundance and varieties of bacteria present with their ferments and toxins.

Dr. Cushing and the late Dr. Livingood found that the upper part of the alimentary tract contained fewer varieties and numbers than the lower part. The greatest number of suppurative conditions is from ulcerative perforation, and from peptic, typhoid, dysenteric, tuberculous, carcinomatous, and syphilitic ulcers. The acuter the perforation the greater the danger. In slowly progressing ulcers, as soon as the serous covering is reached an adhesive inflammation takes place, causing an encapsulation of the products of inflammation with an abscess formation, whereas the traumatic perforations cause a rapidly spreading peritonitis without pus formation due to sudden entrance of the contents of the stomach and intestines into the peritoneal cavity.

Phlegmonous and ulcerative processes of the intestinal tract can produce a suppurative process in the peritoneal cavity without perforation by migration of bacteria through the walls. A diseased condition of the vermiform appendix is the most common seat of suppurative processes in the abdominal cavity. In the greater number of these cases the process is localized as adhesions form around the diseased organ. Walled off perityphlitic abscesses may secondarily break into the general peritoneal cavity, producing a general suppurative peritonitis, or they may be again walled off.

The perforation of a peptic ulcer of the stomach or duodenum is also a common cause of suppurative lesions, especially if perforated pos-

teriorly. Sloughing carinoma or phlegmonous inflammation of the walls of the stomach may cause suppuration. In the small intestine, typhoid and tuberculous ulcers, while in the large intestine tuberculous and syphilitic ulcers, lead to perforation and suppuration. Foreign bodies that have been swallowed may bore their way through the alimentary tract. Congenital diverticuli of the intestine often give rise to suppurative conditions.

Constriction of the intestine can, by dilatation of the upper part, cause pressure necrosis with perforation. Obstruction of the bowel from the disturbance of nutrition and circulation, as in hernias, volvulus, adhesive band obstruction, and intussusception can cause suppuration, although the infection is usually so severe that it results in death before suppuration takes place. Perforation may not take place, but the wall may be so injured that bacteria may wander through. An embolus or thrombus of a mesenteric blood vessel can lead to suppuration by the resulting gangrene.

The intraperitoneally situated female genitalia, as the uterus, ovary, and tubes, are very frequently the origin of a suppurative process. A severe puerperal infection or a mild catarrhal infection of the tubes and uterus can cause an infection by progression through the open ends of the tubes. The streptococci are usually the cause of the puerperal infection, while the inflammations not puerperal are usually gonococcal. Traumatic or spontaneous rupture of the uterus or vagina during birth, the perforation from a curettage, a perforation by attempted abortion or the introduction of caustics into the uterus, can all cause suppuration if death does not result before suppuration can take place. The liver and gall-bladder from gall-stone inflammations, as cholecystitis, cholangitis, liver abscess, and abscess in the gall-bladder or ducts, are frequent causes of suppuration. Echinococcus cysts may suppurate and produce an abscess of the liver with involvement of the peritoneal cavity. Inflammation, suppuration, and necrosis of the pancreas can rupture into the peritoneal cavity. Fat necrosis must also be included.

From the spleen infectious material may cause suppuration in the peritoneal cavity from rupture, as in malaria or typhoid. Embolic spleen abscesses and echinococcus cysts can also cause suppurative lesions in the peritoneal cavity.

Strangulation of the pedicle of a wandering spleen with necrosis has led to suppuration. Large cysts and tumors of the abdomen with twisting of their pedicles must also be thought of in the same way. The lymph glands of the mesentery can break down, especially after typhoid fever. Suppurative thrombi in the blood vessels (pylephlebitis) can be the source of trouble.

In newly born children infections of the umbilical wound through an infected umbilical artery or a phlegmonous process can cause a suppurative peritonitis. Inflammation or suppuration of the kidney can infect the retroperitoneal connective tissue and, secondarily, the peritoneum. Abscesses of the prostate gland, as can phlegmonous inflammation of the urethra (as from stricture or rupture), can, by extension through adjoining tissues, involve the abdominal cavity. Suppurative processes of the seminal vesicles must also be kept in mind.

With an open processus vaginalis an orchitis or epididymitis can easily produce suppuration within the abdomen. Suppuration of the pleura or pericardium can extend over to the peritoneal cavity. All injuries and diseases of the abdominal walls, which lead to suppuration (as erysipelous, phlegmonous inflammation), and suppuration of the vertebræ, ribs, or ilium, can by extension involve the abdomen.

In the autopsy records of Prof. Dr. Benda, in the hospital at Urban, in seven and one-half years numbering 8,267 autopsies, there were 446 acute diffuse cases of peritonitis which had their origin as follows:

Appendix vermiformis	115 times
Stomach and duodenum	68 times
The balance of the alimentary tract	118 times
Female genitalia	81 times
Gall-bladder	10 times
Urinary and kidney	10 times
Pancreas	2 times
Spleen	1 time

In 35 cases they could not find the origin. Two cases were supposed to be hematogenous (nephritis and articular rheumatism), and 4 cases were post-operative in nature.

FOR DISCUSSION SEE PAGE 384

THE PATHOLOGY OF SUPPURATIVE PROCESSES IN THE ABDOMEN

By J. F. Critchlow, M. D.

SALT LAKE CITY, UTAH

It would be vain for me to attempt to give more than a general outline of the pathology of this interesting subject, in the time allotted, and I shall elect to treat, therefore, of those phases of it that are of most interest to the clinician and surgeon.

Obviously, the morbid processes in and of the peritoneum are the ones, then, that will most engage our attention, for were the organs which are so frequently the initial seat of disease, entirely free from, and disassociated with, the peritoneum, their treatment would be comparatively simple.

In order that we may the more easily understand the true nature of many of the morbid changes, more accurately estimate and comprehend the complex symptomatology, and more intelligently seek to relieve the conditions, we shall look for a moment into the anatomy and physiology of the peritoneum.

The peritoneal cavity is a serous "sac, the surface area of which, when spread out, is, according to Wegner, approximately the same as that of the external surface of the body. It was formerly regarded as a perfectly closed sac, but Schweiger, Klein, Muscatello, and others have shown that the endothelial lining of the peritoneum, particularly in the region of the diaphragm, is not continuous, but is interrupted by a large number of stomata, or mouths, the diameter of which has been found large enough to permit of the passage of bodies twice the size of a red-blood cell." These stomata lead directly into the serous and subserous lymph-spaces, and thus establish a communication with the lymphatics. Thus it will also be seen that there is but the short thoracic duct interposed between the peritoneum and the vascular system, viz., the innominate vein. This view of the open stomata has been contested by some, notably by W. G. MacCallum, who seems to establish, with some degree of certainty, that the larger ones at least are covered over with a thin layer of endothelium continuous with the peritoneum, and that the phagocytes may be observed working their way through this roof of the lymph-spaces, while the pumping action of the diaphragm, in the act of respiration, assists the passage of fluids and granular matter between the margins of the endothelial cells.

The most important lymphatic trunks draining the peritoneal cavity are those which run up in the anterior mediastinum, and in acute peritonitis, the lymphatic glands in the first intercostal space are reddened, swollen, and contain micro-organisms. Experimentally, it has been shown that micro-organisms have reached these glands within six minutes after being thrown into the peritoneal cavity.

Normally, there is but a small quantity of serous fluid in the peritoneal cavity, which is the subject of a constant interchange of fluids, accomplished by a double process of transudation and absorption. The absorptive powers of the peritoneum are of the greatest importance in certain pathologic conditions, and as we study its varying moods, under varying conditions,—now absorbing 3.3 of the body weight in fluids within an hour, now exerting none of such function,—we find an aid to the interpretation of some of the perplexing problems presented during the symptomatology and course of some diseases in this region. The absorption is carried on partly by the lymphatics and partly by the blood stream. Substances in solution, and substances merely suspended, granular substances, pigments, cells, and micro-organisms. Some of the solids pass out by the stomata, some are taken up by the wandering cells floating about on the fluid, and still others by the endothelial cells of the peritoneum itself. The omentum plays a very important part in this absorption, both of fluids and bacteria, and will often be found full choked with organisms, when the peritoneum gives an absolutely negative culture. Two factors promote the rapidity of absorption, and are regarded by some men as suggestive of this or that treatment according to the object desired. One factor is the rhythmical action of respiration, and the other is the peristaltic action of the intestines. A number of factors may retard or even stop completely this absorption, and as the factors retarding absorption come into play chiefly, and perhaps only, under pathologic conditions, it is of spe-

cial interest and importance in this connection.

One of these factors is the introduction into the peritoneum of irritants, and of such irritants, in this connection, as produce or tend to produce suppurative inflammation, peritonitis suppurativa, local or general. (In passing I would say that primarily there is increased absorption, but later a retarded or totally ceasing absorption.)

The development of our knowledge of the true nature and causes of peritonitis has been largely within the last twenty years, and the credit is due largely to bacteriologists, aided very materially by the results of modern operative surgery. Formerly the primary seat of the trouble was overlooked, they usually regarding a peritonitis as a spontaneous disease in itself, without reference to any organ as an etiologic factor, such as a sloughing appendix, a perforated intestine, or strangulated gut. Regarding, then, a peritonitis as a secondary process to disease of some of the organs, let us study its development and course as suggested at the beginning of this brief paper.

That variety which will most concern us, of course, will be the acute or subacute local and general peritonitis, which is suppurative, if not from the outset, at least in its tendency or development.

As you have doubtless heard from the paper on the etiology of these processes, several factors seem to be necessary to produce a suppurative condition. It is not sufficient that pyogenic micro-organisms be present, for, as we have seen, they may be immediately absorbed, and be relatively innocuous. It is not sufficient that a foreign body alone be present, for we have all become familiar with the fact that sponges, ligatures, etc., may be introduced into the abdominal cavity and remain indefinitely, becoming encysted and harmless. They, of course, produce a localized chronic adhesive peritonitis, but of this we are not now speaking. In addition to one or both of these irritants there must be present a chemic irritant. By this I mean that the fluids bathing the tissue must be so modified, or contain an irritant due to bacterial life, a toxin. This modified medium will not of itself produce suppuration according to the best observation, but must contain bacteria. There are apparent exceptions to this general rule, but it is very probable that the exceptions are more apparent than real. As I have intimated, the absorbent function of the peritoneum is very potent in ridding the sac of noxious agents, such as hoards of micro-organisms and their various toxins, and this may be accomplished so rapidly in fact that there is little, if any, evidence of a true peritonitis before the subject of the infection is overwhelmed by the absorbed organisms and poisons, and death supervenes. On the other hand, it happens, and this obtains in forms we are considering specially, that two or all of the factors are active at the same time, bacteria present, a foreign body, and a chemic irritant, as, for example, a ruptured appendix, or the insult of bowel contents pouring through a perforation; and here comes into play the important change before alluded to, viz., the retarding or ceasing of absorption. Here begin the morbid changes in the peritoneum which are so important and interesting. A suitable nidus for the further development and growth and lodgment of pyogenic bacteria is formed. There is a damaged serosa, damaged mechanically and chemically; there is diminished absorption; and the bacterial products, not being removed, consequently accumulate, and exert their baneful influence. Walthard believes that there is not so much functional paresis of the serosa hindering the absorption as that there is the presence of the chemic irritant, which produces the peritonitis. I do not know that I am well supported in the theory that much of the abatement of the function of absorption is due to the reflex closure of the stomata from the direct shock of the initial insult, much as when one touches the tip of a sensitive plant, the whole plant will immediately close all its leaves.

Given now the proper conditions for the production of suppuration, let us proceed to the consideration of the anatomic lesions obtaining in suppurative peritonitis of the localized type, of an acute or subacute form, and in describing these, they may be considered as the usual type of the suppurative processes in any part of the abdomen, whether due to an infecting appendix, a pyo-salpinx, an empyema of the gall-bladder, a perforating ulcus of the stomach or intestine, etc., etc.

The earliest change is injection of the serosa, which is very red, and is often covered with hemorrhagic spots of varying size. The visceral layer is, in all cases, more hyperemic than the parietal layer. In the fulminating type the process may not reach further development, that of exudation, owing to the rapidly fatal intoxication. As a rule, however, exudation follows the stage of inflammatory hyperemia, the exudate consisting of fibrin or of serous fluid, or it may be serofibrinous. The layer of fibrin first forms a thin, sticky covering, intimately connected with the structure of the peritoneum, and gives a dull grayish appearance to this membrane. Adjacent structures and organs may become loosely adherent to the inflamed surfaces. The serous exudate accumulates, and there seems to be little doubt that the former theory, that it is derived from the blood, is erroneous, but there is much to support the claim of Neumann, that the fibrin finds its source in a metamorphosis of the connective tissue in the outer layers of the serosa. In this exudate polymorphonuclear leucocytes swarm, migrating from the blood vessels. They are the main bacterial phagocytes. Mononuclear phagocytes are present in all stages. These are derived from the serosa of the omentum, and are mainly phagocytic for other cells, but may also ingest bacteria. Shreds and flakes are found floating in the exudate, and are composed of fibrinous masses, or lumps of congregated pus-cells. In certain violent inflammations, the exudate is red from contained blood. This is frequently true in such conditions as volvulus, or where there is internal strangulation of the bowel. Early in the process the exudate may be but slightly turbid, but later becomes thick, opaque, and creamy, or, if mixed with blood, muddy or chocolate colored. It may often possess a fetid odor. This is often due to the presence of gas from the lumen of the gut, for it is well established that gas can pass through the wall of the bowel or even the bladder by osmosis. It may be due to direct communication with the lumen of the intestine, or to one of the bacteria which produce foul gases, as the bacillus coli, or the bacillus putrificus coli.

Some of the striking clinical changes are the great distention of the portion of intestine affected, or the great thickening of the wall of the gut from the overlying coat of exudate. This walling in and circumscribing of an abscess has the greatest importance to the operator, influencing him in his time for operating and in his method of subsequent treatment.

This protection provision of nature is perhaps more marked or striking in the peritoneal cavity than in any other location. From the gluing of the sticky surfaces together, above mentioned, there are progressive deposits of circumscribing walls about the area of infection, and the more strain brought upon such walls from the accumulating pus and consequent increasing tension, the more will they thicken and organize, until in older abscesses we find a very dense organized membranous sac, enclosing in a compartment, impervious from within and without, excepting through violence, the strengthening of the wall keeping just in advance of the increasing strain it has to bear, unless in exceptional cases. In some cases the walling off of these localized abscesses by dense adhesions progresses so far as to present permanent fortification, but in the majority of cases they are largely absorbed and but few traces are to remain after the irritant is once removed. This is especially true if they are relieved of their duties early, and after this the peritoneum resumes its smooth, shining appearance, and the surfaces show practically no scars or residue of former changes. In the problem as to the disposal of such adhesions, when an abscess of the abdomen has been opened, the various views will doubtless be discussed, when the treatment of this subject is reached, but I cannot refrain from calling attention to these facts—the lack of absorptive power of the peritoneum frequently, while the organisms and other irritants are active—the protection nature uses in protecting the general peritoneum in these conditions and her marvelously well executed and well observed quarantine of the region affected—and the wonderful success with which she often restores to a condition of integrity a region that seemed hopelessly entangled. As abscesses become more chronic we often clinically would not suspect their presence excepting by detailed examination. The temperature and pulse returning to normal, the pain subsiding, the appetite

returning, etc., etc. This is easily understood when we consider the intimate processes of these suppurative conditions. The deposits coming in and finally completely burying the absorptive surfaces of the peritoneum, all the stomata becoming long since occluded and the toxines walled off from any relation with normally absorbing elements, the blood ceases to get new and increasing loads of such poisons, but is constantly unloading through the agency of pyolytic, active and excretory organs, till finally there is none being absorbed whatever, and all that was formerly absorbed has been excreted or neutralized, and the abscess then becomes as a foreign body. It is a sterile foreign body, so far as the general peritoneum is concerned. This pus may be at first very virulent and the organisms extremely active, but as time goes on, and communication with the general circulation is progressively impeded, until ultimately there is entire cessation of such communication they become attenuated, are affected by their own life products and finally die or assume a state of comparative inactivity—hence it is that we often find abscesses of long standing in which it may be difficult or even impossible to get a culture. The pus becomes sterile. However (and this is a great danger and influences us in our methods of treatment), let there occur a break in the wall surrounding them, from any cause, either through partial rupture or through ill advised or careless manipulation of the surgeon, they may at once assume a virulent form from reinvigoration in fertile areas and our patient succumb to their renewed attack.

One of several results may obtain, in the ultimate disposition of these pus collections. They may penetrate the surface of some hollow viscus, as the intestine or bladder and escape through Nature's drain. They may be drained by the surgeon, or finally, if not too large, they may be literally absorbed by the peritoneum in one or all of the methods suggested. The phagocytes are of course the chief agents. While this is in general the course of these circumscribed abscesses, we may have a process so rapid in its development that no adhesive barricades have time to form, such as in cases of puerperal peritonitis, and the peritoneum becomes full of pus, micro-organisms and their toxines, and the absorption be so rapid as to overwhelm the victim before the phagocytes can muster sufficient numbers to combat, or adhesions can circumscribe.

FOR DISCUSSION SEE PAGE 384

DIAGNOSIS OF SUPPURATIVE PROCESSES IN THE ABDOMINAL CAVITY

By E. F. Root, M. D.

SALT LAKE CITY, UTAH

Your executive committee has given me the rather heavy task of outlining the differential diagnosis of the suppurative processes of the abdominal cavity. Volumes are written to cover all the details. I shall be able to give only a brief synopsis.

All the suppurative diseases of the abdominal cavity resolve themselves into one condition—peritonitis. To differentiate the causes of this peritonitis, and therefore to name the different diseases, seems at first thought to be an easy process. But when we think that all the abdominal and pelvic organs are enveloped in one common covering, and that one organ is so readily inflamed or affected by disease in another, it is at times not easy to make a diagnosis that will stand.

When we have evidence of infection, fever, chills, pain in the abdomen, sweating, insomnia, etc., we say we have a peritonitis, and must find, if possible, the beginning focus.

Idiopathic peritonitis must be left out as being too rare or impossible. Therefore we look to some extraneous force or disease of some organ. Traumatic peritonitis, such as a gunshot or stab wound or contusions, is always diagnosed from the history of the case.

Pus in these cases is easily located. But it is the forms of peritonitis of the consecutive type that are more difficult to diagnose. By consecutive, I mean suppuration in the peritoneum caused by rupture into or extension into the peritoneum of inflammation from some organ within the abdominal cavity.

Any suppuration within the body may set up an abscess of the peritoneum by metastasis. This, I wish to take up first. Specific periton-

itis may be caused by the pneumococcus, the tubercle bacillus, or the gonococcus, and when, during the course of any of these diseases, we have a sudden rise of temperature, chills, pain in the abdomen, rigidity of the abdominal walls, and great tenderness, it is pretty certain that suppuration is beginning, and, sooner or later, will be located by tumor, excepting in a few cases when it is diffuse.

Cases of pneumonia infection, fortunately, are rare. Those of tuberculosis are not easily diagnosed except in those who are known to be suffering with it in some other parts. There is, however, a doughy feel to the abdomen, especially after the suppuration is far advanced.

There is nothing, I know, of especial diagnostic value regarding infection by the gonococcus, excepting knowledge of the fact of previously existing disease. But with this knowledge, especially in the female, it is a safe diagnosis.

There are certain symptoms common to all suppurative diseases in the abdominal cavity, namely, pain, tenderness, rigidity of the walls, fever, chills, and distension. If suppuration is due to rupture of a viscus so that its contents are suddenly poured into the abdominal cavity the train of symptoms will be violent and overwhelming to the patient; for instance, a perforating ulcer of the stomach or duodenum. Pain of the most excruciating character, with sweating and extreme pallor will come on at once. There is no cessation or remission of these symptoms, and, if not relieved by the surgeon, they will continue until coma and death end it. These symptoms cannot easily be mistaken, and from the position of the pain can only be confounded with gall-stone colic of a pronounced type. Here, too, we have great rigidity of the muscles, and a facial expression, never to be forgotten, of agony and fear.

The temperature at the onset will almost surely be subnormal, and the pulse very weak and thready. In other words, shock is most pronounced.

If unrelieved for a few hours there will be great distension and an appearance of general peritonitis.

Cholecystitis is not a very infrequent condition, and is not always easily diagnosed, for its symptoms may be misleading. Chronic suppurative cholecystitis of the milder type is usually recognized by the location of the pain, tenderness, slight rise of the temperature, and a slightly jaundiced condition. But the phlegmonous type has so many symptoms in common with several other diseases that it is hard at times to be certain where the primary lesion is. Here we have great pain, vomiting, constipation, tympany, collapse, etc., symptoms common to perforation of a viscus, appendicitis, intestinal obstruction, as well as an inflamed gall-bladder. The pain may be, and often is, referred to some distant part, such as the region of the appendix or the stomach. Distension is often very pronounced, and I think but seldom is a characteristic gall-bladder tumor made out. The inflammation causes swelling and adhesions that entirely change or obscure the parts.

The most common error is to mistake this condition for appendicitis. Possibly more so because we are on the watch for appendicitis, but the two conditions have many symptoms in common. Then, too, the pain of one may be referred to the region occupied by the other, or the organ itself may occupy the usual site of the other. For instance, a gangrenous appendix may be found well up under the liver; and it is not very remarkable to find a gall-bladder down to the brim of the pelvis. Unless there is something in the history of the case to guide in cases where the symptoms run so closely, the only possible means for a diagnosis is laparotomy. In fact, it is not at all common to find both diseases running together.

A very common method of differentiation is by pressing backward over McBurney's point for appendicitis, and laterally over the lower ribs or inward about the tip of the tenth rib for gall-bladder infection.

Acute pancreatitis is very similar in its train of symptoms to gall-bladder disease. The pain and tenderness is deeper seated. A blood examination is of some value in establishing a diagnosis between tumor of a non-inflammatory sort and any inflammation or abscess, but of course does not guide us in localizing.

An intelligent and clear-cut history of the onset and course of the case is, after all, the best and most reliable diagnostic guide. For instance, I have recently had a case of very large

tumor in the region of the spleen in which there was marked leucocytosis with fever of about two or three degrees, bowels moving freely, slight jaundice, and urine loaded with detritus, which I am satisfied was a fecal impaction in the descending colon. Perforation of a gastric ulcer or a gall-bladder or an appendix, a volvulus or intussusception or a perforating typhoid ulcer can sometimes be made out only by the history; but when the case has come on suddenly, with very little premonitory symptoms, the onset is so violent and the shock so great that it is often impossible to be certain what is the primary lesion. We can form a general idea as to about the seat of the disease, but he is a great diagnostician who can invariably state positively just what the lesion is.

The symptoms of appendicitis are possibly so familiar that to go over that subject at this time may seem like a needless waste of your valuable time; yet there are reasons why we cannot hear this story too often, or become too familiar with the subject. The cardinal symptoms are plain and easy to recognize, and it would seem that to have familiarized one's self with them would be to be able to always make a diagnosis. But how often do we meet cases with many symptoms so indicative of other diseases that at first it is hard to be positive, or how often do we hear the expression, "I was afraid to recommend operation until I could be positive."

Not all cases begin alike, but usually there is a vague sense of uneasiness in the abdomen, a little rise in the temperature, possibly a chill, pain becoming more pronounced over the entire abdomen, nausea, more or less vomiting, and constipation. After a few hours all symptoms become more pronounced, the pain very severe, and, while it remains general for a time, it is sure to center over the seat of the disease in the appendix. The abdomen becomes rigid, and I think the rigidity corresponds pretty well to the severity of the onset. This is not invariable, but is a pretty safe guide. Almost from the first, tenderness can be elicited if the finger is pressed down over McBurney's point, that is, on a line between the navel and spine of the ilium. If this sign is not well marked at first it will be within a short time, as the inflammation becomes more pronounced.

A very high temperature is not the rule. Ordinarily about 100° to 102°; but in exceptional cases it may reach 104° or 105°. Gradually, as the disease advances and inflammation spreads to the outer coats and surrounding structures, tumor begins to appear, and if abscess is marked tumor will correspond. This in case the abscess is walled off. But we meet cases that go on so rapidly that there is no limiting wall, and the pus is diffused throughout the abdominal cavity. Here, however, rigidity of the muscles is very well marked.

There is no specified time in which these symptoms develop. A few hours may suffice to cover the entire course of the disease up to the rupture and beginning of general peritonitis. Possibly the inflammatory process is mild, and days or weeks pass before this climax is reached.

Here, too, as in shock from any other cause, we may have profuse sweating, pallor, and an appearance of acute anemia.

As before stated, the organ may assume unusual position or be associated with other diseased organs, thereby rendering a diagnosis difficult. Its normal position is in the right iliac fossa, possibly projecting over the edge of the pelvic brim; but in exceptional cases it varies all the way from the right inguinal ring to the gall-bladder, and may even be found in the left side. But the pain and tenderness center over the diseased organ, wherever it may be.

I have seen a case recently who had been sick for a week with no pain over the appendix at first. There was a remission of all symptoms, but at the end of a week it came on with renewed violence. When he came into the hospital he was flat, abdomen very hard, some pain all over, but most pronounced over left iliac fossa. Suddenly the pain became violent, and, as the patient said, shot from the left side to the right and there remained. When the abdomen was opened there was a large amount of pus with no limiting wall.

In the female, it is very common to find a pyosalpinx and appendicitis together. Then we have the symptoms of both, and can only determine which was primary by the history, or possibly if, after operation, the gonococcus is found, we naturally suppose it to have been the excit-

ing cause of the tubal disease and the appendicitis to be consecutive.

The tube and appendix lying in such close relation sometimes make a diagnosis difficult. But a careful vaginal examination, together with the history, usually suffices. In some exceptional and advanced cases tumor may be made out by the examining finger in the rectum or vagina. But I think diagnosis should be made before the case has advanced so far.

A very common symptom, and perhaps an overrated one, is the position the patient assumes of drawing up the right leg. This is to relieve tension on the psoas muscle. Often this symptom will be lacking if there is no irritation about this muscle.

Somewhat of the condition of the appendix and its surrounding parts may often be made out at first examination by the history of the onset, and the condition found on local examination. With low temperature, moderate pain, and not too sensitive to the touch, by careful palpation the somewhat swelled organ may be felt. This by using the hand flat over the part and feeling with the tips of the fingers. If this condition prevails, we have an endo-appendicitis.

If the onset has been violent with pronounced chills, and tumor is found, there is a suppurative condition either from perforation or peri-appendicitis. Gangrene of part or of all of the organ may take place early, but then we have a rather violent onset with intense pain until the time of rupture and relief of tension. Then for a time there is relief, and a false sense of security.

An appendicitis should always be suspected in case of sudden, continuous pain in the right iliac region unless some other disease is known to exist, remembering that in the male the peritoneum is not exposed to the direct influence of extraneous irritation.

Renal colic or an inflamed right ureter might possibly be mistaken at first thought for an appendicitis; but if a little time is given to collecting and analyzing data this mistake is needless.

I shall pass pelvic abscess with a few words. While it is all-important to the surgeon and patient that a proper diagnosis be made, it is in almost every case apparent at a very early date.

After confinement or a miscarriage, if there is sudden rise of temperature, pain, and distension of the abdomen, a chill, and cessation of the lochia, it is very certain that an abscess is forming somewhere about the pelvis; in fact, the symptoms of peritonitis here are the same as in other locations.

A history of gonorrhea in the female is almost certain sooner or later to lead to the history of salpingitis and pelvic abscess.

FOR DISCUSSION SEE PAGE 384

TREATMENT OF SUPPURATIVE PROCESSES IN THE ABDOMINAL CAVITY

By H. D. Niles, M. D.

SALT LAKE CITY, UTAH

The known presence of pus in any part of the human structure is an indication for its removal by the safest and most direct route. At the present time I believe no thoughtful man will deny the application of this rule to suppurative processes within the abdominal cavity where closely associated vital organs are liable to be invaded and perhaps destroyed by any existing infection, and where a tissue like the peritoneum furnishes so rapid and dangerous a medium for conveying the infection to nearby organs and the general system. Hence I assume that our inquiry as to the treatment of these conditions may be limited to how and when we shall attempt the removal of infection pus and devitalized tissue from the abdomen after its presence is discovered and its situation determined. It is, of course, unreasonable to rely upon medicinal or any other non-operative measure to effect the removal of an infection that is not confined to the alimentary canal, or does not drain into the alimentary canal. Hence the moment our diagnosis is made we are confronted by two questions only: When shall we operate? How shall we operate?

The answer to the first question depends upon the virulence of the infection, the danger of extension, and the possibility of drainage through natural channels. It has required an immense amount of clinical experience and operating-room observations to bring about anything like a unanimity of opinion as to the conditions that should justify any delay whatsoever.

There has always been in the medical profession, as in the other walks of life, a natural tendency to postpone or evade any decision or action that involved immediate danger and distress, and quite a proportion of internists have been and still are striving to find some legitimate excuse for delay in any surgical procedure. I believe, however, that we rarely are able to be sure of the conditions in the abdominal cavity that justify any evasion of the rules that hold good in other parts of the body. In those cases where the infection is a mild one, as in gonorrheal salpingitis, we may wait until the acute symptoms have subsided. In tubercular kidney or tubercular peritonitis there may be no occasion for extreme haste. Where there is a likelihood of partial drainage, and when the infection is known to be mild, as in some cases of cholangitis, we may safely wait until the surroundings and the condition of the patient are most favorable for operation. But I cannot help believing that each year's experience will force us to a closer adherence to the rule that heads this article.

Perhaps the disease that has in this connection elicited the greatest amount of discussion is appendicitis. Many good, conscientious men are striving to establish a time limit or a temperature or pulse gauge or "an all-round good judgment of all the symptoms" rule, that will enable them to determine the exact stage of a morbid process in an appendix in order to select the most opportune time to remove the infection. Some even profess to be able to gain this information by palpating the rigid or distended abdomen of their patient. One distinguished surgeon, and a good friend of mine, in the best of faith advocates a long period of fasting to precede operative interference in certain cases. However successful this plan of treatment may have proven in his skillful hands and ripe judgment—and he produces some very attractive statistics—I am convinced that much suffering, and not a few deaths, will result and have resulted from general practitioners pinning their faith to such a deviation from the teachings of pathology. We should remember that it is possible that a surgeon with several hundred appendicitis cases a year might find a few exceptional cases annually where this rule might be applied without materially changing his operative mortality, but the average physician might never meet with such a case, and, if he did, he might not recognize it. I think, therefore, that the starving method, or any other rule of action except prompt operation, is unsafe for the average practitioner or surgeon to follow. As soon as the diagnosis of appendicitis is made, and the patient can be properly prepared, the operation should be done.

Time will not permit a description of the various excellent operative procedures that have proved efficient in the removal of pus infection and devitalized tissue from the abdominal cavity, and I shall venture to mention only a few general rules that have seemed to help me to secure good results.

First. Where possible take time to prepare the patient properly. This preparation to include not only rendering the skin aseptic, but emptying the alimentary canal, and giving proper attention to the kidneys, heart, and other organs.

Second. The small incision in most instances is to be preferred.

Third. Strive to keep the small intestine free from unnecessary exposure and out of sight and touch.

Fourth. Select the most direct route and strive to remove all of the diseased tissue and no more.

Fifth. Keep the edges of the incision and the abdominal contents protected with gauze, sponges, or pads.

Sixth. Break up all adhesions where practicable, but do not handle normal tissues except so far as is absolutely unavoidable.

Seventh. Leave no raw surfaces, but cover them with peritoneum before closing the abdomen.

Eighth. Practice upon the cadaver or animal is absolutely essential if one is to acquire even moderate skill and dexterity in intestinal suturing.

Ninth. With more complete and accurate work there is now less need of flushing and drainage than formerly, but when employed at all the flushing should be thorough, and the drainage should be accomplished by the simplest means, and never through the vagina.

Tenth. It is not very material whether silk or catgut is used in the peritoneal cavity, but whichever is used the smallest size possessing

sufficient strength should be chosen. My own preference in most cases is fine silk.

Eleventh. Gauze packing, glass drainage tubes, and chemical irrigating fluids are always useless, and often harmful.

Twelfth. An accurate diagnosis, a clear mental picture of the pathology, a small incision, a direct route, the fewest instruments and assistants, an acquired dexterity, the simplest methods, and the most complete work, are the essential points in the mechanical removal of infection from the abdominal cavity.

DISCUSSION OF THE PRECEDING PAPERS

Dr. Rich.—It seems to me that within the next few years there will be quite a change worked in the views entertained as regards the pathology of the peritoneum. At the present time it appears that there is a disposition on the part of the pathologist to study the peritoneum of the living subject, whereas in the past this study was carried out upon the cadaver; and in all probability there will be a change in the prevailing ideas within a few years hence as regards the peritoneum generally. Recalling what has been said in regard to treatment, I concur, in general, with the remarks of Dr. Niles, that pus should be evacuated at the earliest possible moment, and also in the most direct way. The doctor stated that this should be done through the smallest incision that is possible. I am inclined to differ with him. If there is pus in the abdominal cavity, and you undertake to enter that cavity through a small incision, you are making a mistake. I believe a larger incision is a wiser plan, because it is an easier matter to enter the cavity, and easier to enter the peritoneum when you get down to it. It seems to me that in the first place, it is difficult to make a small incision and enter the cavity with any degree of freedom when you are obliged to go through a small opening.

It was my pleasure last summer to see Dr. Deaver operate, and I was struck with the free manner in which he approached the peritoneal cavity. In some cases the incisions extended from four to five inches in length down to the peritoneum, but the incision into the peritoneum was possibly only half an inch. It is true that the muscles and skin can be easily sutured, and they will grow together better where a free incision has been made, as there is less displacement and traumatism; but when the peritoneum itself comes plainly in view, the less injury the better.

Dr. Taylor.—I have listened to the reading of the several papers with intense interest and with much profit. The last paper presented emphasized what I had in mind as the words were being read, that is, in relation to the diagnosis. In every case we must insist upon a careful and thorough diagnosis. In the district of the state in which I am living, we make it a rule to never operate in abdominal cases until we have examined the patient once under an anesthetic; and this is done with care and most thoroughly, to be sure of the conditions present and to confront us when the operation is attempted. This gives us a "lay of the ground," and, furthermore, it is incumbent upon us in all such cases to make a careful examination of the various secretions of the body, as a check and to verify what we find in the examination under the anesthetic.

I feel that the paper on "Diagnosis" covers the field most thoroughly, and I can only repeat this one thought that keeps recurring to me, that we cannot be too careful in determining the real seat of the suppurative process beforehand, and to be prepared to meet the conditions as we find them to exist.

Mr. President called upon the Society's guest, Dr. Morton, of San Francisco.

Dr. Morton.—I think this symposium is well worth my trip of 800 miles. I have listened to all of it with much interest, especially the etiology and pathology of it, and I think that these two features should always be remembered in every case of suppuration within the abdominal cavity. I was interested in the first paper presented, especially the mention of the power of the peritoneum itself in antagonizing infection. This is something which the surgeon has not relied upon enough—the power inherent in the peritoneum of protecting itself. Some one has stated that the omentum is the "life preserver" of the abdominal cavity, and I believe there is a great deal of truth in it.

I was also interested in the way in which the subject of infection in the upper part of the abdominal cavity was treated, and also in the writer's treatment of those places within the cavity not covered by peritoneum. I believe there is room here for further observation.

There is one point in the matter of diagnosis which, as it seems to me, is a very important one, and I believe was omitted, and that is the examination of the blood. I think we do not pay enough attention to this matter as a rule. It is true, we may be able to make a diagnosis without this examination; but it tells us very much. It enables us to determine whether or not the suppuration is localized or is walled-off. In cholecystitis or in appendicitis, or other diseases with which we are well acquainted, I believe that one of the best guides is to watch the blood count as well as the temperature, respiration, rigidity, and other symptoms presented. In the examination of the blood, if the leucocyte count passes to 20,000 or something near that, you will almost always find that the pus is not localized. Again, if you count down to 15,000, and if you are watching it, and it begins to climb up, you generally have to arrive at the conclusion that pus is possibly gravitating and opening up new spaces. While this is a new field, it is one of the things that interest us as important in making a diagnosis.

The author of one of the papers refers to palpation of the appendix, so as to ascertain its location and dimensions. I think there is some danger in this. I would be afraid of rupturing the appendix by palpating. It is still a question as to the extent to which palpation is reliable. Some affirm that it is impossible. Of course, there are all kinds of variations and exceptions; and whether it is possible or not to palpate the appendix will depend upon particular cases. Dr. Root mentions this, but I think extreme caution must

be used to prevent an accidental rupture of it. Personally, I do not believe that I could feel an appendix through the rigid abdominal muscles, and I rather question whether I would be able to detect it or not by palpation. While on this point, there is one thing which occurs to me as a very serviceable means in making examinations of the abdominal region, and it has served me very well in many cases, if not generally; and that is the importance of securing as complete relaxation of the muscles as possible, by securing complete flexion of the limbs. It helps very much.

Now, a word as to the treatment. My friend, in taking up the treatment, plainly shows on which side he stands, or, otherwise he takes the view of the surgeon. Now, every man who is called to make an examination of the abdomen is not a surgeon, and, again, many of us are not always prepared to operate; there are many uncertainties as to whether or not there is pus in the abdominal cavity; and it is not always justifiable to advocate an operation, particularly if we are uncertain. And I want to go on record as saying that there are times when it is wise and well to postpone the operation, and it is well for us to act medically, resorting to other than surgical means. One of the gentlemen told me that if pus remains in the abdominal cavity a certain time, it loses its virulency to a certain extent: it becomes dead pus. I know this to be so, and I know that, as a rule, you cannot get a culture from it, and so if you carry out nature's plan, and later operate, then you need not be afraid of spreading the pus and producing a general infection. There are times when nature helps us out, and nature after all is the best of physicians and surgeons: and the sooner we learn to follow nature's dictates, the better we are going to do, whether we are medical men or surgeons. The closer we follow her and study out her methods in treating infections of the abdominal cavity, the better. It is not always well to rush in too soon. If you can get at the pus before it spreads through the entire abdominal cavity, it is well and good; but we may be able to do this by watching all the symptoms carefully, including the blood count, which I have mentioned, as it has served me and accomplished much good. But there are times when you do not see the case before it ruptures, when it is still localized; and there are times when you do not see it at that particular time, and now what are you going to do? Again, the surroundings may not be what they ought to be. The case may come under the care of the inexperienced; the general practitioner may have to treat it, and what is the procedure in these cases? Ochsner treats these cases just as you and I treat infection in any other part of the body; he carries out the same principles. If my friend the "eye man" has an iritis, or any other infection about the eye, he puts it at rest; he keeps it perfectly quiet, and this gives relief. If the general practitioner has a case of cystitis, he puts the bladder at rest by resorting to appropriate measures; and why does Ochsner starve his cases? simply because he wants to carry out this principle of rest, just as the surgeon does in the case of fracture of the arm: he applies proper splints; he puts it at rest, but if there is infection in the arm, he opens it and drains; if it is spreading rapidly through the arm, he keeps it as quiet as possible; and so this principle applies also to the abdominal cavity, we keep the abdominal organs at rest, the bowels particularly. We prevent peristalsis, and do not give a cathartic. If you give sulphate of magnesia in the early stage of any abdominal infection, if the pus sac has ruptured or if it has not ruptured, you start up a peristalsis; food is carried along the intestinal tract; and if you have a rupture, you immediately spread it over the abdominal cavity, and you do not carry out this principle of rest. If you have a case of suppuration in the abdominal cavity, which you may not see until the second, third, or fourth day of the peritonitis, the rule I have adopted is this: I go by the condition of the patient; if I find that the patient has a pulse ranging from 116 to 120, and there is rapid respiration, and a pinched condition of the face, with a tympanitic abdomen, with the limbs drawn up, and he has passed through the history of what appears to be an abdominal infection, and if I see him at that time, possibly vomiting also, with a leucocyte count of above 20,000, I am absolutely positive that the pus in the abdominal cavity is not walled-off, that he is suffering from a general sepsis, or what we call blood poisoning; and in this condition I know that the pus is not localized; that it is spread all over the abdominal cavity, in all the tissues of the cavity. What earthly good will I do if I open up the abdomen, and turn out a little of the infection? If this is done you antagonize the sheet-anchor in the abdominal cavity; you inhibit the work of the peritoneum and the omentum, and it is not able to recover. Now, the most of these cases are going to die; and I have seen this result too often when I find that condition, and I have satisfied myself that I am honest in my convictions, and that there would have been absolutely no hope; but since I have adopted the method of Ochsner, I have lost only one case, and that was when I operated contrary to Ochsner and consultants. In these cases I give them no cathartic,but possibly a little nourishment per rectum, and in this way I have carried them over till the leucocyte count dropped to, say, 15,000, and with it the temperature will also come down; but if your abscess is walled-off by adhesions, there and then you may operate, but in these cases you have practically sterile pus.

I have had very little experience with children; however, the line of treatment is practically the same. When I see a patient suffering from general sepsis I do not operate; and if you do so, the effects of the anesthetic will depress him, and even though there is but slight manipulation of the intestines, you are interfering with the sheet-anchor of the peritoneum and omentum. If it is beginning to be walled-off, you are in danger of spreading the infection everywhere within the abdominal cavity.

As to the size of the incision. I like a small incision, if I have a clean appendix case, but if you are going to operate where there is a question of infection, you had better have a larger incision, but in the small incision there is less chance of hernia following. Another point I want to congratulate the doctor upon. He says handle the intestines as little as possible. I believe they are handled too much as a rule. To handle them as little as possible is an excellent rule to observe. I note also that reference is made to irrigation of the abdominal cavity. I believe it should not be used. The only exception I think where I would resort to this is where I had an actual intestinal perforation with an escape of the intestinal contents into the abdominal cavity. It is questionable how much good this does accomplish: some have good results and others have abandoned it altogether.

Dr. Niles says that he never drains through the vagina from the abdominal cavity. Now, of the many cases that might be benefited in this way, I refer only to a case of infection of the tubes, and if you do not want to remove the tubes, sometimes it is possible to drain in this way. Of course, this is altogether questionable, and it all depends upon the condition. Drainage of the abdominal cavity is essential in many cases, but perhaps not as much as we have thought; and the more we practice and the more we rely upon the omentum and the peritoneum to absorb extra amounts of exudate, and the poisons that we have been speaking about, the better it will be, as a rule.

Gentlemen, I appreciate very much the liberty of

talking upon this most interesting topic, as there is no theme that could be of greater interest to us; there is no field in which we are liable to make more mistakes; but the man who watches these operations and the one who is capable of judging in these matters, is not the surgeon alone, but the general practitioner. Some succeed best with Ochsner's method and others with Deaver's. But statistics bearing upon the treatment of pus in the abdominal cavity have decreased very materially with me in value. You cannot rely too much on comparative statistics as to results from the various methods of treating pus in the abdominal cavity, for they are constantly changing. Statistics are always elastic, and it is no easy matter to say who has the better of the two.

Dr. Union Worthington.—There are, so far as I am able to determine, practically two questions to determine: First, the diagnosis; second, the time when to operate. The first confronts us in every case, and we are united in our efforts to determine it. The second, however, finds a division in the profession Many radical members of our profession believe in the earliest possible surgical interference in certain acute inflammatory conditions of the abdomen. Some years ago I heard Dr. John Deaver, while lecturing on appendicitis, say when a diagnosis of appendicitis is made the appendix should be removed, without waiting for a blood count or anything else. This position was supported by Price, Morris, and others. The other side of the question, e. i., delay operating in suppurating appendicitis, was taken by Drs. Ochsner and William J. Mayo, the latter presenting convincing statistics to prove the correctness of their position. In answer Dr Deaver said he would not give a snap for statistics, because he did not believe his own, consequently he could not believe Dr. Oschner's. What then are we to believe?.

My experience teaches much can be accomplished by starving the patient and waiting until nature forms a barrier around the pus, if it shows a disposition to do so. At the end of this time there will have been established a certain amount of immunity in the general system by its becoming accustomed to the presence of pus in the abdomen. After the wall of the pus cavity is well established you can drain the abscess and feel safe from the spreading of the peritonitis.

I am sorry that I did not arrive in time to hear the two papers first read on the subject; but I heard the paper discussing the palpation of the appendix. I question any man's ability to feel the appendix through the abdominal wall, unless the wall is very thin, and there is no inflammatory condition there; for if the patient is at all sensitive there will be rigidity of the muscles, and this will prevent you making deep pressure; and, furthermore, I do not think you are justified in palpating it. I recently removed an appendix in which there had been practically no outward appearance of any inflammatory condition. The patient had been ill two or three weeks, had been vomiting, and the temperature was such as goes with appendiceal trouble, and when I corroborated the diagnosis that had already been made, and went to work to operate upon the case, and drew the appendix up, I was a little chagrined. There was no particular enlargement of the appendix, and there were but two or three drops of pus. In such a case I would defy any man to determine that it was present from the appearance of the appendix and furthermore, we know that the appendix is so variable in its location that in 25 per cent of the cases I have seen it has been found beneath the cerum and the meso-appendix. The fold of the peritoneum which holds it down to the abdominal wall or anchors it in the cecum is so short that it twists down beneath the cecum, and it is utterly impossible to palpate it in any such position and palpation, I think, is a diagnostic feature that is not at all reliable in any one's hands.

Dr. Skeen.—There are a few phases of this topic that might be further dwelt upon with profit. To begin with, there is one factor in the pathology of this question that seems, in my judgment, to be a matter of importance. Metastatic formations of pus occur, and there is just such a possibility as this in many cases of abdominal pus. To understand this it is necessary to understand the relationship of the abdominal lymph spaces with the lymph spaces of the body generally. We may say that the peritoneal cavity is only a large lymph space in the same sense that the lymph channels in the body are lymph spaces. This relationship cannot be doubted when we consider how the fluids of the body are gathered up and distributed. There is a relationship between the pleural cavity and the abdominal cavity, only on a larger scale, and we all know that from the point of invasion through the skin surface, or through the mucous surfaces, the tonsil, for instance, there are points of entrance, and through these places the infection reaches the lymph glands, which serve as guardians against the spread of infection. I think we should now consider the peritoneal cavity in the same sense, so that metastasis must play an important part in suppurative processes; and I think this is a matter that has not received the attention that it rightly deserves. There often is a certain vagueness or obscurity about infection, and we cannot place our finger on the point of entrance as we may in other conditions.

There is another point I want to touch upon, and that is the relationship of the stomata in the peritoneum with stomata elsewhere. Preparations can be made by silver nitrate and other re-agents, clearly demonstrating the stomata on both surfaces of the diaphram. Reference has been made to the apparent greater severity of infections in the upper part of the abdominal cavity. We may find herein a rational reason for such a condition.

Another question in connection with the diagnosis: I have had a series of cases wherein arose the question of the differentiation of appendicitis from some infection involving the genital organs of the female. I have in mind a case that came to me from Idaho, which was diagnosed as appendicitis, and was ready for operation, when the case came to me for consultation. After a careful examination, in which I included a careful pelvic examination, I found that there had been a complete laceration of the cervix, resulting in almost complete obstruction of the cervical canal. There were various symptoms, including irregularity of the menstrual function. I advised local treatment for the time, and subsequently I advised dilatation and curettage. I found in attempting to dilate the cervix a mass of scar tissue following the cervical canal. I succeeded in getting through, and found towards the right side some increase in the size of the tube; and by careful work, I made an opening into this, establishing drainage. In the course of some 10 days or so all symptoms disappeared. I think a careful diagnosis must be made in all cases as between an involvement of a tube and a case of appendicitis. Furthermore, I think this is a matter that is not given sufficient attention. In this case I found that a pelvic examination had never been made.

The other question, brought up by Dr. Worthington, was as to cases of walled-off pus cavities. It is only three weeks ago since I operated upon a case where there was a history of pain lasting only about 24 hours. When I first saw the case I considered it one of appendicitis, but I pursued the course of treatment advised by Dr. Morton, limiting the amount of food and

lavage so that apparently all symptoms subsided; but in the course of a few days they returned, and I found evidences of the development of an abscess, and operation was advised immediately. Upon opening the abdominal cavity I found, as soon as I reached the peritoneum, a large amount of pus, and this escaped as soon as I opened the cavity. I relied upon blunt dissection, opened up the peritoneum, emptied the pus, but did not attempt to remove the appendix. However, I established drainage, and within 48 hours there was no fever, and none after the second day. The point here is that I did not touch the region that I found walled-off. As to the treatment medically, I most heartily agree that where there is no indication of constitutional infection or general sepsis, treatment should be other than surgical as advised by Dr. Morton.

Dr. Richards.—I would like to ask a question, and that is this: How long after pus has become encapsulated can it be considered sterile and not further auto-infectious; and how long may one wait before going down into the abdominal cavity without endangering the patient or jeopardizing his chances of recovery?

Dr. Stewart.—I will not try to answer the question just asked by Dr. Richards, but before we leave this subject, I would like to ask Dr. Morton to briefly touch upon the local treatment useful in combating a peritonitis, or a local treatment such as would be indicated in abscess formations within the abdominal cavity or other infectious processes within the abdominal cavity. To explain: for instance, a physician is called upon to see a patient. He may find a localized peritonitis, a salpingitis, or a septic process. Now, what I want to get at is this: If the patient has appendicitis, shall we apply, the first thing, an ice-bag, antiphlogistine, or any of the kaolin preparations, turpentine, or any local application temporarily? We are taught that heat and cold are useful agencies, and limit inflammation. Aside from the effect of cleaning out the alimentary tract by a cathartic, and then giving the bowels rest, I would like to know what views Dr. Morton entertains as to these or others, whether this local treatment is advisable or beneficial.

As to what the doctor has said in regard to acute cases, I can substantiate all he has said, and I also believe an honest confession is good for the soul. The first few cases that I had and operated upon I lost, and now I believe I know the reason for these failures, and I believe that the doctor is not going to be alone in his confessions with St. Peter. Why, I lost these cases and I did not know why, but I think I understand now. My idea was to remove the appendix, get it out as quick as I could—I mean without delay. I would open the abdominal cavity, and find an angry condition, and pus was not always visible. Now I feel otherwise, and I regard things in another light. I put on the ice-bag, secure absolute rest and quiet, and allow the patient to rest for a few days. I believe that we can do this safely, waiting until the pus is circumscribed; and as the temperature and pulse drop we are safe in advancing. Since adopting this plan of procedure my mortality has steadily decreased. We learn by our blunders, and I had to have some pretty hard knocks.

There is one other point, as to the absorptive powers of the omentum and the peritoneum. You are called to the bedside, the patient gives a history of having taken "cold." He complains of a painful area, one side or the other, but usually confined to one side. The temperature may reach 102, 103 or 104 degrees, and the pulse be up to 100, or as high as 125. I have in mind the case of a married woman who had borne two children. Her surroundings were all that could be desired, and being called upon to attend her, I found this group of symptoms. I now believe the treatment advocated and discussed at some length already, is applicable in just such cases as these. Enjoin absolute rest, and extend this to the bowels also, and you will find that the designation of the omentum and peritoneum as the "sheet anchors" is an apt comparison, and in these cases you will get the same kind of a result as Dr. Morton has told you of in extenso.

Dr. Fisher.—I heard Dr. Deaver speak on this subject, and also Dr. Price. With a friend I attended some clinics, and Dr. Deaver was making some very positive statements in his argument about the matter of statistics. The friend who accompanied me was standing near, and I said, "Brown, what do you think of Deaver's statements?" He replied: "I think he is stretching the truth." I wish to say that this doctor was a general practitioner, and had sent Deaver a number of cases, being a very good friend of his, but he said he did not think his practice would bear out the statistics. It is only about a month ago, he said, that he sent him a case of appendicitis, and the doctor said: "I will wait until he is in condition to operate."

I mention this only to show that the practice of waiting until conditions are favorable is one that is gaining ground, and that a more rational view is being taken of suppurative processes now than there has existed before.

The president called for replies to the questions propounded by Drs. Richards and Stewart.

Dr. Behle.—May I begin to answer by asking what constitutes pus? and how long will it require for pus to become sterile? I stated in giving the etiology of suppurative conditions of the abdomen, that pus could be produced by certain ferments and toxins, and that some men may not consider this pus; if so, then I don't know how to answer. If you refer to pus as being of an infectious nature, then you can ask how long will it take to become sterile? But, gentlemen, there are extremists in supperative conditions of the abdomen. Would you take an inflamed hand and cut the hand off to get rid of the inflamation? Another man will, by a certain amount of rest secure the same result. Let us take a severe case of tenosynovitis. In a few days you can clear up that condition by inducing congestion and creating a hyperemia; and so Bier of Bonn comes in, and says that you want hypermia. Carrying out this idea I have seen him place rubber bands around a man's neck, and clear up a mastoid abscess. You will find exactly the opposite views entertained. Dr. Niles says, "Be sure and operate immediately, but be sure and make a correct diagnosis." I don't know where you would start—there are extremists of all kinds; but I must say that I am proud of Ochsner and his views. I think he is just a little bit ahead of the times. You must accept his statistics and results for they cannot be questioned.

As soon as a diagnosis is made, operate on an appendicitis! Yes, if you see that case within the first 24 or 48 hours, but who is to make the diagnosis at that time? The fact that there is a pain in the right iliac region does not constitute appendicitis. If in the gall region, it does not justify you in concluding abscess of the gall-bladder. If you are sure that you have a case of appendicitis present, and of a virulent nature, and you can operate without delay, very good; but if you see the case three or four days afterwards, it is not advisable to touch the case, but wait In advanced suppurative processes, operate and you lose the case. Now, coming to a few of the statements that have been made, such as "leave no raw surfaces," "don't drain," "remove the pus" (the audience laughs). We are told not to drain through the vagina. Suppose you have a little abscess in Douglas' cul-de-sac, you are told not to drain through the vagina. For my part, I would open the abscess, and drain it through the vagina.

I thoroughly agree on the importance of making a correct diagnosis, and we cannot draw the limit as to what means are to be employed in doing this. One man can feel the appendix through the abdominal walls, another makes a blood count in determining the amount or degree of infection, whether local or general: but it requires some time to make an examination of the secretions, and facilities may not be at hand. Judgment must be used. Don't allow yourselves to be extremists, but we should be prepared to meet extremists in the proper spirit when we do encounter them.

If you are dealing with an abscess or an appendicitis, and you have a high temperature and evidences of great bacterial activity, it is disastrous to go into the abdominal cavity at such a time; but if you apply the ice-bag or adopt Ochsner's method of restricted diet, and you wait a certain length of time and have a subsidence of the symptoms, with possibly some evening rise of temperature, and you finally get a condition of normal temperature. Then, I say, pus is comparatively innocuous; and under such conditions it is safe to operate.

Dr. Root.—I wish to state that, so far as the etiology and pathology of the conditions spoken of tonight are concerned, the facts that have been presented, embody a first-rate epitome of our knowledge at the present day. It would require volumes to elaborate upon and bring the subject down so as to include everything upon which it touches; but I believe that the gentlemen present are going to profit very much by getting, in so complete and concise a manner, an epitome of the etiology and pathology of the conditions that have been discussed this evening of suppurative conditions within the abdominal cavity. It seems to me that the consensus of opinion inclines to the view that the whole matter comes down to the question of peritonitis of the suppurative type.

There are a few points in regard to the treatment that Dr. Niles brought out, which I would say a few words about. Appendicitis, I suppose, has been more discussed than any other disease, perhaps because we know relatively more about it than we do about a great many of the other inflammatory conditions about the peritoneum; but it does not matter whether it be an appendicitis or a salpingitis, the condition we encounter is practically the same, as the pathology is the same, and therefore it is fair to set up appendicitis as a type that can be discussed.

In regard to the matter of technic of the operation for appendicitis, one of the authors of this evening's symposium makes a point of using a small incision, and, as I remember, Dr. Morton also uses the small incision in preference, because he is capable of doing it. I believe that the less trauma the better, and if the operation can be done with a small opening, if the operator is equal to it, so much the better. It is not necessary to have a large incision to attack the appendix unless it is situated so deeply that it cannot be reached in any other way, while many of our cases of appendicitis will be found where the appendix is near the surface, and with proper management can be gotten at fairly well without a great deal of damage to the tissues, and there should be as little trauma as possible in all cases. But whether it is the appendix, the gall-bladder, or any other organ, working room is necessary. The incision must be large enough to do it right, but with as little damage as possible; not to mention the possible consequences of hernia resulting from imperfect union following upon a large incision. Whenever the peritoneum is handled it is injured to some extent, however slight. The damage may not be visible or appreciable, but the peritoneum is injured to some extent, whether handled by steel instruments or by rubber gloves, or anything else. In some way you do injury, and the least injury the better, for you are to relieve a pathological condition in undertaking the operation itself.

So far as the nature of the suture material is concerned, I believe that topic has been threshed over enough; but I think that something that is absorbable is always better than a material that cannot be absorbed; and if one is sure that the field of operation has been preserved sterile throughout, I believe that he can feel sure that it will remain secure and hold and be absorbed in time if the material is absorbable, but if it is not some day some one will find our suture at the bottom of a sinus.

So far as drainage is concerned, that depends upon whether a considerable amount of infected tissue is left in or not. In many cases it is absolutely necessary to provide for drainage. In a great many cases of small area or a larger area, in a known condition, we may trust to the absorptive powers, or drain through a buttonhole at a distance from the operation wound, so that in from 24 to 48 hours, it can be discontinued and we find the incision will heal up quickly and kindly, so that no great harm can possibly come from drainage, and there will be no special fear of hernia or damage to the abdominal wall. Where gangrene of the appendix has been encountered and the condition is advancing rapidly, I believe it is necessary to drain.

I believe that the diagnosis should be as nearly correct as possible in all conditions. You may say it is appendicitis, but it is well to get as definite a picture as possible of the condition in your mind of the damage done before you do any damage yourself, and it will modify the operation very much. The diagnosis can be made to a considerable extent from the clinical history from the beginning up to the time you see the patient. I believe, with Dr. Morton, in the blood count, and that it reveals the local condition to some extent, but it cannot be relied upon implicitly; it is only one of the means at our command. Now, so far as the tactile sense is concerned, which has brought out quite a good deal of discussion, the ability to feel the appendix through the abdominal wall, as mentioned in my paper, I said an endo-appendicitis could be diagnosed by the touch. I do not think that if you have a big abcess or a conglomerated mass, you can feel the appendix or trace its outline through it; but with a clear-cut appendix that is somewhat swollen, I believe that in many cases by a careful examination, if the walls of the abdomen are thin and not rigid, I believe it can be traced out; and I think by using caution there can be no harm in this procedure, and I believe that as little harm should be done before as at the operation. I would not press down, using any degree of force, over the appendix, and in case you can detect a tumor it is best to just barely touch it without running any risk of rupturing it whatever, as the walls may be extremely thin and just barely strong enough to hold together, so that too much care cannot be taken in the examination.

An examination under an anesthetic is necessary in certain conditions, I suppose, and in some suppurative conditions, to make the diagnosis would necessitate a second anesthesia. I think one anesthesia is enough. When the examination under anesthesia is made I always prefer to have everything in readiness to operate.

There is one other point worthy of consideration, and that is in regard to the Ochsner method. It is just this rest to the part that is employed in other inflammatory conditions. When you rest any part you allow the natural forces to operate and to take care of the patient. At any rate, I want to make this point clear that you rest your abscess by taking off the tension,

and in that way you produce the identical state that Dr. Morton has so much insisted upon. To open an appendieeal abseess rests it. Say that one has gone on pretty far and is not an extreme ease, where you have a well-defined tumor and there is a lot of pus in it, the easiest way to rest it is by arresting the peristaltic action and the movements of the patient, as well as the work of the stomach, by withholding food, and at the same time taking off the tension, and if you operate you do this and secure rest by taking off the tension in allowing the escape of the pus. In extreme cases where there is a general peritonitis, the question as to what is the best thing to do is still hard to solve. If I could follow any single man who is not an extremist, I believe I would be willing to do so; but an extreme case is sometimes brought in, and you think the patient is dying; then there is the question as to whether to let the patient die hands down, or undertake to give at least a little relief by taking off the tension, and making the case as comfortable as possible.

Dr. Worthington said that it was good to open the case, and to allow drainage; and to incise and drain you do very little harm to the peritoneum because it is already damaged to the last degree, and all you do is to simply part the walls and allow the pus to escape. In these cases I think it is a question for the judgment of the individual. And then you have the other kind of cases when the appendix is buried down deep in a conglomerated mass; and if the case is a very severe one and acute and it is going to injure and infect the peritoneum, I would not, if I possibly could help it, open the general abdominal cavity, but only open into the abscess and remove the appendix. If this cannot be done with moderate accuracy, it is better to let it wait a while, as you have already accomplished just what is required; but in most of these cases the appendix is not absolutely and wholly involved; but if there is a part involved, it is almost certain that it will cause some trouble, so in these cases I undertake at some later time to remove them.

Dr. Niles.—It is already getting late, but I trust you will have the patience to listen to the closing remarks I have to make upon this important subject. I do not doubt the sincerity of those who differ with me in their conclusions, but I must claim for myself an equal sincerity and honesty of purpose in seeking the truth. No one can hold Dr. Ochsner in higher regard as a man and a surgeon than I do, and I heartily endorse the high tribute paid him here tonight, but I cannot grant to any man, even Dr. Ochsner, the right to substitute his opinions or belief for my own, in my own mind and practice, nor should you.

Dr. Morton has certainly entertained and instructed us tonight. If I had his eloquence and plausibility I too might be tempted to eliminate logical argument from my remarks.

We are not discussing "pains in the side" to-night, but appendicitis, true and real. This pathology we must find in one of three stages.

1. *Where the infection is confined to the appendix.*
2. *Where the infection is located about the appendix.*
3. *Where the general peritoneal cavity has been invaded.*

In determining upon our treatment of appendicitis, we should think of the pathology in one of these three stages. In the first stage, when the infection is confined to the appendix, we all have come to agree that the immediate operation is the proper treatment, though time should always be taken to prepare the patient.

In regard to the second stage, some would operate at once, and some would wait for the infection or pus to be walled off. I do not believe that it is logical to wait, because there is no way to determine whether the walls are thick or thin, or whether they are becoming thicker or thinner. The "time limit", the pulse rate, the temperature variation, and palpation have all been put to the test, and we must all acknowledge that there are no signs or symptoms to tell us whether our patient is nearer to or farther from a rupture into the peritoneal cavity that may end fatally. I know that there are those who claim to obtain this knowledge by some inscrutable combination of skill and judgment, but for those of us who are only gifted with the ordinary faculties of mankind, I believe it is safer not to wait for signs that are not likely to occur; in other words, it seems reasonable to interrupt this destructive process here, as we would elsewhere, at the earliest possible stage by operative measures.

Now, we come to the third and last stage, i. e., when the infection has invaded the general peritoneal cavity. This is practically the only stage where the Ochsner method is recommended, I believe. But even in this stage, I cannot indorse the views of my distinguished colleague or his followers. I do not claim that the operative treatment ensures the same proportion of good results as it does in the earlier stages, but I believe the prompt removal of the infection is safer than to wait. If the peritoneum was infected by a perforation of the stomach, or any part of the intestinal canal, with escape of the contents, we certainly would not wait for Nature's reparative powers to effect a cure. We would lose no time in operating, and we would feel that every hour we waited counted against our patient's recovery. Is the pus or infection from an inflamed appendix any less virulent or dangerous so that we should allow it to remain in the peritoneal cavity while we wait upon Nature? Should we regard the contents of the stomach or intestines in the peritoneal cavity as a stronger indication for operative measures than the infection from an appendix? To me it seems reasonable that in either case we promptly correct the pathology by mechanical means as thoroughly and as promptly as possible.

Now, using Dr. Morton's own argument, when he speaks about an elbow or an arm with pus infection and the rest treatment, I would ask the doctor, which is the better time to rest the elbow, before or after the removing the pus? Why not take out the pus and rest the elbow afterwards?

In regard to irrigation; if our infection is confined to an abscess cavity that does not communicate with the general peritoneal cavity, there certainly can be no good reason for not washing it out as we would in other parts of the body. But when there is an opening, however small, or when the infection has already invaded the general peritoneal cavity, there is room for a difference of opinion. Personally, I cannot help believing the risk less after a thorough irrigation which removes a large part of the infection, dilutes what is left and distributes it to the immense area of peritoneum whose phagocytic absorbent and reparative powers have been so convincingly proven, than to leave a concentrated infection to the care of a small area of peritoneum.

I never drain through the vagina, for I have greater faith in capillary drainage than in gravitation, and see no good reason for making an additional opening through healthy tissues. Furthermore, any surgery done through the vagina means surgery done more or less in the dark in structures that it is next to impossible to render and keep aseptic.

I believe that the appendix should be removed at the primary operation and in only one instance have I failed to do so. We can never feel sure that our patient is safe so long as the original cause of his trouble remains locked up in his abdomen.

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THE FOUNDER OF BRAIN SURGERY

The death of Dr. K. Wernicke, a prominent neurologist of Germany, recalls the fact that in 1882 he was the first man, according to medical history, to locate a brain growth and systematically proceed to order its removal. He prepared for this step by patient research in the anatomy of the nervous system, and was considered by his associates as the principal creator of the modern anatomy of the brain. Following this line of investigation he attempted the foundation of a scientific basis for psychiatry in the pathology of the brain. Fuchs styled this effort as "the first work that bridged the gap between mental disease and morbid processes in the brain."

At 26 he was the originator of the present conception of aphasia and its pathology. He had a wealth of data from his research that will be invaluable to his followers.

No one has accomplished more in a practical way for the benefit of students of medicine than Wernicke. Other scientists preceded him in histological investigation, but it was left to him to bring the surgeon into close touch with a field supposed to belong exclusively to the neurologists. We must still look to the old world for our elementary training, however brilliant our American methods. The man who would to-day attempt the removal of a brain tumor, abscess, or cyst should pause for a moment, and pay his silent respects to Wernicke, who first made this possible for the surgeon.

It may not be out of place at this point to emphasize the necessity of a more thorough knowledge of brain anatomy and physiology before any form of surgery of the brain or cord is attempted. To the trained neurologist the outlook over the brain field is like looking at innumerable mountain peaks to decide which one is most easy of access. How much more difficult for the surgeon whose field is confined to the injuries which are evident, or who is concerned with the whole economy! The same difficulty meets the general practitioner, who must deal with so many emergencies in his busy daily round of practice.

The locating of a brain lesion is absorbingly interesting. The differentiation of an actual from a supposed or a functional disorder is a stumbling-block which frequently upsets the searcher however skillful he may be. The closer attention one gives to nervous anatomy, physiology, and pathology the clearer the vision of disease becomes.

The accurate localization of a growth within the cranial box is most gratifying, from either the neurological or the surgical viewpoint.

SANATORIA FOR TUBERCULOSIS

The subject may be monotonous, but the public can only be aroused to its sense of duty by a constant repetition of the demands of the tubercular subject and the safety of the public.

Senator Redfield Proctor, of Vermont, who has a son afflicted with tuberculosis, has offered to furnish a site and erect a tuberculosis sanatorium, and endow it with the sum of $100,000 and present it to the State of Vermont. The site and buildings will cost about $50,000.

Such munificence is in sharp contrast with the slow offerings of the State of Minnesota. Our state sanatorium opening has been anxiously awaited for two years simply because the people and their representatives do not seem alive to the needs of our suffering subjects. Perhaps in sharper outline stand the efforts of the Department of Tuberculosis of the Associated Charities in Minneapolis where it is almost impossible to raise twelve hundred dollars a year to maintain

two nurses who devote their time to visiting and caring for the tubercular poor of this city.

The rapid growth of sanatoria in Germany shows what may be accomplished. In 1892 there were three sanatoria in that country, in 1897 there were 13, and now there are 68 official, and 27 private, institutions.

The Red Cross originally took the lead in this movement, but it has been outstripped by the societies insuring against sickness.

The latter devoted special attention to curable cases. Eleven of these regional insurance societies have sanatoria of their own. These insurance companies developed the sanatorium movement as a logical consequence of the compulsory insurance of wage-earners against sickness. Very naturally the movement is placed on a self-supporting basis, or they could not exist. The companies are undoubtedly under the supervision of the municipal authorities, and hence must fulfill the letter of the hygienic law and of the departments of health. What is most interesting and suggestive is the education in hygiene acquired by those taking a course at a sanatorium.

They also spread over their environment the instruction they have gained, and in this way teach others the dangers of infection and the methods for its prevention. This is one of the greatest benefits of the insurance and sanatoria movement.

The absorbing question is, however, how to arouse the public, and secure their support by example and financial contributions.

Who can present the situation best to the philanthropist but the physician? If he does not take sufficient interest in the movement, it must fall or, at best, be inadequate.

Personal appeal, with reliable statistics and earnest presentation of facts, should secure enough money to place several sanatoria on a sound foundation.

COMMISSIONS ON PRESCRIPTIONS

How does this sound? Dr. Edward A. Taylor, of Racine, Wis., was sued by a druggist for a $70.00 drug bill which he refused to pay, claiming, it is alleged, that the druggist owed him $200.00 for business sent by him.

The doctor was defeated in the trial, the judge holding that contracts between physicians and druggists whereby the former are to receive commissions from the latter for sending them prescriptions, are void, and that such practices are contrary to public interests. Verily, a wise judge and a foolish doctor!

How many physicians receive commissions from druggists in the Northwest? This is a pertinent question, and is one that cannot be answered truthfully by "no" from all physicians. It has been held by many of the laity that most physicians receive commissions on their prescriptions. This is a gross error, yet the layman laughingly, but good naturedly, doubts the medical man when he disclaims any such practice. It has been looked upon for years as a mild form of graft on the part of the doctor. The editor ventures to remark that only a small proportion of medical men stoop to such low methods; yet, that it exists in some form, there can be little doubt. Occasionally, perhaps frequently, the medical man fails to pay his drug bill, which sometimes is very large, and the druggist looks upon its non-payment as a part of the relation between him and the doctor whose prescriptions he covets.

This is all wrong, and should be stopped before it becomes a disgrace to the profession. It is on the same footing as the payment of a secret commission from the surgeon to the physician who brings him a case for the money there is in it. If such a question is brought before the courts it should meet the same fate as the case quoted in the beginning. The business methods of both druggist and physician should be open and above criticism. Each is bad enough now, and in many other respects their relations to the public can be improved. There is no reason why the public should be continually deceived, and no earthly reason why the business of the physician should not be on a par with other methods known and respected in the business world. It is a notorious fact that physicians are poor bill-payers, and that accounts against them are as difficult to collect as against attorneys. If the physician would put himself right before the business world, conduct his business on a legitimate foundation, and adhere to it by pushing methods, he would be able to reject commissions

from unscrupulous or unwilling druggists, could pay his bills like a gentleman, care better for his family and himself, and, what is more important, gain the respect of the community in which he lives, and incidentally gain his own self-respect. He would then be a real power, and exert a personal influence, and his word in municipal and legislative worlds would be followed and appreciated. Instead of this, he is scoffed at, unrespected, and is unable to advise where his advice is most needed, among business men accustomed to business methods.

A man who conducts himself as if he respected himself and adheres to proper business customs is the man who is among the leaders in all things.

A well-known and highly respected druggist doing a large business in the south part of Minneapolis, puts the following "sticker" on every package sent out from his store:

"It is always wise to consult your family physician. Avoid patent medicines and fakirs.

"40 Years Experience."

That is manly and courageous, and as there is no "patent" on the "sticker," we commend it to all druggists seeking the patronage of physicians and the respect of the public and of themselves.

BOOK NOTICES

The Pharmacopeia of the United States of America. Eighth decennial revision, by authority of the United States Pharmacopeial Convention, held at Washington, D. C., 1900. Revised by the Committee on Revision and published by the Board of Trustees. Official from September 1, 1905. Cloth $2.50. Philadelphia agents, P. Blakiston's Son & Co.

This work, of course, is authoritative. The committee has shown great conservatism in its work, but notwithstanding its desire not to make changes that might cause serious results, some were made of necessity; and the physician who is not familiar with even the few changes made may get into very serious trouble.

The strength of tincture of aconite has been reduced from 35 per cent to 10 per cent, and that of tincture of veratrum from 40 per cent to 10 per cent. The strength of tincture of strophanthus has been increased from 5 per cent to 10 per cent.

These changes were made in order to conform to the standards adopted by the International Conference on Potent Remedies, held at Brussels in September, 1902, and thus to make uniform the strength of potent remedies in all parts of the world. As they have now gone into effect, prescriptions must be written accordingly. Quite a number of changes in names have been made, and 148 articles have been added and 52 dropped. Serum therapy has but one preparation, namely, serum antidiphthericum, which shows at once the conservatism of the committee and the general recognition of the efficiency of this serum.

Fractures and Dislocations. By Lewis A. Stimson, M. D., LL. D., Professor of Surgery in Cornell University Medical College; Consulting Surgeon to Bellevue, etc. Fourth edition, revised and enlarged, with 331 illustrations and 46 plates in monotint. Philadelphia: Lea Brothers & Co.

We have commended in high terms the former editions of this work, and because of our prejudice against new editions without anything new in them, we are pleased to find in this new edition enough new matter to justify its publication.

The advancement in *x*-ray work is noted, and many excellent plates are given to illustrate its usefulness. The tendency toward open operations is recognized, and considerable other new matter is given.

The work is become one of the few that promise to remain standard.

A CASE OF COMBINED EXTRAUTERINE AND INTRAUTERINE PREGNANCY

H. T. Miller's patient was a woman of forty who had had two children, six and fourteen years previously. In the fall of 1904 symptoms developed which indicated an extrauterine pregnancy, and when she came under the author's care in May, 1905, this diagnosis was made. On opening the abdomen a cyst-like tumor having a pedicle containing the right fallopian tube removed. The cavity of the sac was distended with dark-colored blood and contained the remnants of a placenta and degenerated fetus. The size of the uterus gave rise to the suspicion of an intrauterine pregnancy, which was verified on the second day after the operation by the spontaneous expulsion of a perfectly formed four months fetus. Recovery was uneventful.—Medical Record.

REPORTS OF SOCIETIES

MINNESOTA ACADEMY OF MEDICINE

ARTHUR W. DUNNING, M. D., SECRETARY

The annual meeting of the Academy was held on Wednesday evening, Oct. 4th, at the Commercial Club, St. Paul. There were 30 members present. In the absence of both president and vice-president, Dr. W. A. Jones, of Minneapolis, was chosen chairman pro tem.

The election of officers resulted as follows: President, Dr. A. MacLaren, of St. Paul; vice-president, Dr. R. O. Beard, of Minneapolis; secretary-treasurer, Dr. A. W. Dunning, of St. Paul; executive committee, Drs. C. M. Carlaw and Geo. Douglas Head, of Minneapolis, and Dr. J. L. Rothrock, of St. Paul. Governing board, Drs. H. Sneve and Wm. Davis, of St. Paul, and Drs. J. W. Bell, C. G. Weston, and A. W. Abbott, of Minneapolis.

Dr. Louis A. Nelson, of St. Paul, and Drs. W. D. Sheldon and F. R. Wright, of Minneapolis, were elected to active membership.

Dr. O. C. Strickler, of New Ulm, read a paper entitled "Subphrenic Abscess," which he had translated from the German, together with reports of two cases of his own. The subject was discussed by Drs. Head, White, Dennis, Ritchie, Ramsey and Rees, and by Dr. Strickler in closing.

Dr. Cornelius Williams presented his inaugural thesis entitled "Trachoma and Its Treatment."

HENNEPIN COUNTY MEDICAL SOCIETY

F. A. KNIGHTS, M. D., SECRETARY

A stated meeting of the Hennepin County Medical Society was held at the library in the Andrus Building on September 4th. Dr. David Owen Thomas, president, in the chair, and about sixty members present.

The minutes of the previous meeting were approved as read.

The applications for membership of Drs. L. M. Crafts, F. C. Schefcik, and C. F. Burnam were read, and referred to the Board of Censors.

Dr. L. W. Day reported for the Milk Commission that Mr. C. W. Loring's dairy is now furnishing certified milk, which may be obtained at 731½ Nicollet Ave.

Dr. Bradley offered a resolution relating to the sale of patent medicines by druggists, which was referred to the Executive Committee.

A communication from the State Association ordering this society to adopt certain by-laws relating to lodge and contract practice as decided upon at the last meeting of the House of Delegates was read, and notice given that a motion would be made at the next meeting to adopt the same.

Dr. L. A. Nippert then delivered a short address upon the life and character of the late Dr. W. P. Spring.

Dr. J. W. McCormack, chairman of the Committee on Organization of the A. M. A., addressed the society in a most interesting manner, after which the society adjourned.

HENNEPIN COUNTY GRADUATE NURSES' ASSOCIATION

The annual meeting of the Hennepin County Graduate Nurses' Association was held at the Nurses' Club, 1502 Third avenue south, Thursday afternoon, Sept. 14th, at 3 o'clock. There was an attendance of twenty-five, and much enthusiasm was manifested.

The secretary reported a membership of 123. Seven resigned, one died, and nine were dropped from the roll for non-payment of dues during the past year. The treasurer reported a balance of $41.05 in the treasury. In the educational line considerable has been accomplished. Subjects pertaining to the elevation and progress of nursing are discussed at all monthly meetings.

The registry in charge of Dr. Marion A. Mead has been a decided success. During the past six months more than 500 calls for nurses have been received from outside the city.

Rising votes of thanks were tendered to Dr. Mead, the registrar, and to Miss Erdmann, who retired as president, in appreciation of their services, and Dr. Mead's salary was increased. The officers for the coming year are as follows: President, Miss Edith Rommel; first vice-president, Miss Cora Smith; second vice-president, Miss Carrie Rankillour; secretary, Mrs. C. A. Roberts; treasurer, Miss Elva Bosworth.

NEWS ITEMS

Dr. Martin Kranz has moved to Deer Creek.

Drs. Hunt and Boyd, of Northfield, have formed a partnership.

Dr. G. E. Thomas, State University, '04, of Moose Lake, has moved to Minneapolis.

Work has been begun on a hospital building at Ortonville for Drs. Karn and Bolsta.

Dr. A. E. Johnson, State University, '03, of Madison, has moved to White Rock, S. D.

Dr. J. F. Hendrickson, a recent graduate of the State University, has located at Menomonie, Wis.

Dr. McKenzie, of Villard, has gone to Massachusetts to practice and Villard is looking for a physician.

Dr. J. E. Nyquist, a recent graduate of the State University, has moved from Hibbing to Pine Knot.

Dr. Gustav Goldseth, of Battle Lake, has moved to Henning, and become the partner of Dr. S. Vinje.

Dr. George D. Crossette, Minneapolis, has accepted a position on the staff of the Rood Hospital at Hibbing.

Dr. J. B. Tower, of the Rood Hospital at Hibbing, has resigned from the staff, and will move to Topeka, Kan.

Dr. Arne Zetlitz, of Sioux Falls, S. D., has returned from Europe where he spent several months in special work.

Dr. Hugh S. Willson, a recent graduate, will begin practice next month as partner of Dr. J. C. Suter, of Crystal, N. D.

Dr. Donald A. McLennan, of Cascade, Montana, was married last month to Miss Ethel Marcum, of the same place.

The new hospital building at Oaks, N. D., which Dr. H. P. Hamilton is having put up, will soon be ready for occupancy.

Dr. C. M. Shanely, formerly of Lidgerwood, N. D., died of yellow fever on the 9th inst., at his plantation near New Orleans.

Dr. L. E. Claydon, of Red Wing, has been taking a course in eye, ear, nose and throat work in Chicago, and will make a specialty of this line of work.

Dr. A. F. Schmitt, of Wells, has purchased the office fixtures of the late Dr. Steel, of Mankato, and has moved into the office occupied by Dr. Steel.

Dr. H. L. Stolpestad, State University, '01, who has been in Bethesda Hospital, St. Paul, for two years, has located at Lafayette.

Dr. C. E. Burleson has resigned from the position in the St. Peter hospital which he has held for about a year. He will take up general practice in the east.

Dr. F. J. Plondke, of St. Paul, has returned from an extended visit to Europe. He visited the hospitals of the Continent, and did special work in surgery in Vienna.

Dr. Arthur Kahola, Hamline, '02, who has been practicing several months at Mentor, has gone to Fosston, and has formed a partnership with Dr. M. McKinnon of that place. Mentor wants a new physician.

Dr. Harry K. Read, who has practiced in Minneapolis for several years and has taken a leading position among the younger men, leaves in a few days for Hibbing to accept a position on the staff of the Rood Hospital.

The Yellow Stone Valley Medical Society was organized last month at Billings, Montana. The following were elected officers: President, Dr. H. E. Armstrong; vice-president, Dr. J. H. Rinehart; secretary, Dr. Charles F. Watkins; treasurer, Dr. Carl Schulin.

The Clay-Becker County Medical Society held its annual meeting in Moorhead last month. The following were elected officers for the current year: President, Dr. W. J. Awty, Moorhead; vice-president, Dr. D. C. Darrow, Moorhead; secretary and treasurer, Dr. L. W. Hyde, Moorhead.

Dr. W. F. Milligan, of Wabasha, died last month, after an operation for appendicitis. Dr. Milligan was but 35 years of age, yet he had built up a large practice, and was a highly respected man and citizen.

PRACTICE FOR SALE

In a railroad town of Minnesota, containing 2,000 inhabitants. Practice has been established ten years and pays over $3,000. Will sell practice and office furniture, and will sell or rent house furnished or unfurnished. Address S, care of NORTHWESTERN LANCET.

FOR SALE

About 30 standard books, a good outfit of surgical instruments, an obstetrical case, galvanic and faradic batteries, and a Yale chair, almost new, all valued at $300, will be sold for $120; or any part of the list will be sold separately. Address Mrs. Elizabeth Murphy, Anoka, Minn.

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SYMPOSIUM ON PNEUMONIA*

ETIOLOGY AND PATHOLOGY OF LOBAR PNEUMONIA

By J. W. Aird, M. D.

PROVO, UTAH

While the field for research along the line of etiology and pathology of croupous pneumonia is somewhat limited, there is yet room in which to work. But the degree of completeness to date prohibits, in a way, my hoping to incorporate much that is original in my paper. The most you may reasonably hope for from me, is a presentation of the subject allotted me in this symposium in such a manner as will provoke discussion, and stimulate you to study and research.

The subject is one of deep interest and of vast importance, for pneumonia is a leader in the death-rate among all classes and in all countries.

While we now recognize the diplococcus lanceolatus pneumoniæ as being the specific cause of croupous pneumonia, it is very apparent that there are, in the majority of cases, some contributing causes that lower the vitality, or in some way open the system to invasion by the specific germ.

We know that the pneumococcus is present in the upper air passages in many healthy people; while in some instances it has been found in the blood, and at times it is the pyogenic agent in meningitis, pleuritis, synovitis, pericarditis, endocarditis, peritonitis, etc., and yet the lungs escape. We must, therefore, assume that there are conditions favoring the migration of the germ into the lungs, and favoring its development when once there. Some such causes we can recognize; such as age, previous attacks, sex, race, unsanitary living, social conditions, exposure to inclement weather, sudden chilling of the surface, etc.

Of the predisposing causes, age, perhaps, plays the most important role. While people of any age may, and do, contract the disease, those under six years show a marked predisposition to it. From six to sixteen years is an age when the individual is comparatively free from pneumonia. From sixteen on, the liability to it increases as the time advances, according to some authors; but my own experience would lead me to state the following: From sixteen to thirty-five the predisposition to it is marked, while the ages from thirty-five to fifty-five years show less of a predisposition to it. From fifty-five on to time of death is, perhaps, the most likely period of one's life in which the disease may be contracted. Osler says: "Pneumonia may well be called 'the friend of the aged.' Taken off by it in an acute, short, not often painful illness, the old man escapes those cold gradations of decay so distressing to himself and friends."

Next to age as a predisposing cause I would be inclined to place previous attacks. Having once had the disease, experience teaches us that such a person has poorer resisting power, and, therefore, is liable to further attacks. Once having had the disease, it seems quite probable that those recovering will again contract it, as the percentage of recurrence is large. Perhaps fifty per cent sooner or later contract the disease again.

Sex seems to have some determining power in the frequency of the disease, males being more frequently attacked than females. To my mind this is explained by the fact that exposure to inclement weather is more frequent with the male. Exposure, as is well known, predisposes to the disease. Perhaps no other disease occurs in the same individual with such frequency.

*Presented before the Utah State Medical Association, May 9 and 10, 1905.

Social conditions predispose. People in cities are more liable to the disease, and so are the debilitated from any cause, as we find to be the case in chronic alcoholics, syphilitics, etc.; but it is not infrequently found in those who are apparently the most robust.

Climate has less to do with causation than does season. Perhaps in the United States we have more of it in the Southern states than in the Northern states. Whether this is due altogether to climate or is due partially to the fact that negroes are more susceptible than the white race, is a question in my mind, as it is well known that the percentage contracting pneumonia in negroes is greater than in the white race, which may explain its frequency in the Southern states. In regard to season the spring and winter months give us by far the greater percentage of all cases of the disease.

Altitude seems to play a rôle in the causation, as it is unquestionably more frequent at the higher altitudes. The various septic conditions—infectious diseases, such as the specific fevers, typhoid, typhus, measles, etc.—seem to bear some relation of causation to pneumonia; but frequently the disease does not run the typical course when it develops in this class of patients, and, therefore, should not be mentioned by me here, as the specific germ may be, and very often is, different from that which we find in croupous pneumonia.

The administration of an anesthetic seems to be the exciting cause of pneumonia in some cases, ether being more of an exciter of the disease than chloroform. Some advocate the disinfection of the mouth before beginning the administration of an anesthetic. One thing we all should do without question, and that is to see that the same fabric is not used twice in or on the inhaler, as germs from one person may be carried to another by neglecting this simple precaution. This brings us to a point I may touch upon here: that is the communicability of the disease. While it is unquestionably a communicable disease, it is not readily transmitted from person to person. It seems certain that there must be some other condition present besides the mere transmission of the diplococcus from person to person, to produce or determine the disease. This becomes more apparent if we stop to think how frequently the germ is found in the upper air passages of many healthy individuals. Just what this something is, and how it operates, are questions the future may reveal. Under some conditions, not always known, but which, of course, are favorable to the development of the disease, we sometimes have epidemics, and unquestionably transmissions from the infected to the non-infected in such a manner that it should teach us to be cautious at any and all times in warning against contagion or infection in this disease.

Pathology.—The gross pathological conditions or morbid anatomy I shall not dwell long on, merely mentioning the main features which are well known to all of us.

As three stages are generally described, I shall make mention of them in order. They are engorgement, red hepatization, and gray hepatization. Without going into detail suffice it to say that the first stage is characterized by a frothy, bloody exudate, which partially fills the air cells of the affected part. The lung tissue is deep red in color, firmer to the touch, and more solid than the normal, but still will float in water. On section the surface is bathed in blood and serum. At this stage it will crepitate on pressure between the fingers. The microscopic examination shows the capillary vessels to be much distended, the alveolar epithelium swollen, and the alveoli to be filled with blood corpuscles and detached alveolar epithelial cells.

In the second stage or stage of red hepatization the lung tissue is solid, and looks very much like liver tissue with some appearance of a granular surface, which is produced by the bulging outward of the solid fibrinous exudate, which completely fills the alveoli, and therefore causes the affected part to be completely airless. The area of lung tissue involved at this time is considerably enlarged, so much so that the marking of the ribs may be seen on its surface. The cut surface is comparatively dry and reddish-brown in color, and has lost the deeply congested appearance seen during the first stage. The tissue is now very friable, which feature becomes still more marked in the third stage or stage of gray hepatization. On scraping the surface we obtain a reddish fluid or serum. The small bronchi contain the same fibrinous plugs we see in the alveoli. Microscopically, we see the fibrinous material, together with the epithelial cells, polyneuclear leucocytes, and red-blood cells in its meshes. In cultures from the exudate we may, and usually do, find the diplococcus lanceolatus together with, in some cases, streptococci, staphylococci, and other germs.

In the third stage, that of gray hepatization, the lung tissue, together with its contents, is changed from a reddish-brown color to a gray or yellowish-gray color. The surface has become more moist than it was in the preceding stage, and the scrapings from the cut surface are more turbid. Microscopically, the air cells are seen to be more filled with leucocytes, while the red-blood cells and fibrin have disappeared. A more advanced stage of the gray hepatization is known as purulent infiltration, in which the lung tissue

and contents are softer and bathed in a purulent fluid. At this stage absorption can go on very rapidly. Small or large abscess cavities may now develop, depending upon the severity of the process or perhaps upon the presence and activity of other germs besides the diplococcus lanceolatus pneumoniæ.

The different stages described may, and sometimes do, exist side by side in the same lung. The right lung is involved more frequently than the left, and the lower lobe more frequently than the upper. There seems to be some slight contion of the neighboring lung tissue as well as of the pleura.

The bronchial tubes are often swollen and may be soft and pulpy. The lesions sometimes seen at autopsy, in other organs, are most frequently the distended right heart, which is filled with a dense, firm, tenacious clot. The left chambers of the heart are distended to a certain degree in many cases. Pericarditis is sometimes seen, especially with pneumonia of the left side. Endocarditis is more frequent than pericarditis. The kidneys show parenchymatous swelling, turbidity of the cortex, and, in some cases, chronic interstitial changes. Meningitis is not entirely uncommon; while the liver sometimes shows parenchymatous changes with the extreme engorgement of the hepatic veins.

While the local lesion in the lung is usually designated as an inflammation, the term, as we commonly use it, is hardly correct—or, in other words, is not quite the same as we understand inflammation in other structures of the body. We usually consider inflammation as a process affecting the tissue itself, which gives an anatomical change in its elements; but in pneumonia the septa of the air cells of the lung seem to be only slightly affected when compared with the tremendously active process taking place within the air cells. After a few days are over, following this active process, and the alveoli become emptied of their exuded contents, the cell walls are found to be in their normal state, or practically so. The change most frequently found is merely a little loss of the epithelial cells.

Had the septa thus been subjected to an inflammation as severe as we should expect with such a severe process, as was expressed clinically, it certainly would be the exception for them to return to the normal in so short a time, if in fact they ever could. I take it that, if the lung tissue was affected with severe inflammation, the bronchial nutritive circulation would be so embarrassed in such a delicate structure that breaking down of the lung tissue would be the rule, followed, of course, by abscess of the lung, which we all know is comparatively rare. Or, in case an abscess were not formed, the least we could look for, from so severe a process, would be to have some of the vessels obliterated, permanent indurations left, etc., all of which we know to be the exception. Such changes as the latter frequently take place in a typical form of pneumonia, and in most of the more chronic affections where the walls of the air cells are involved in the disease. In support of the above opinion, that the air cells do not become actively inflamed, I may call your attention to the evidence found in the sudden lowering of the temperature at the time of the crisis, which could not occur if it were an inflammatory fever. If it were an inflammation of the parenchyma of the lung, that inflammation must only gradually subside, if at all, as the physical signs are little, if any, changed just prior to and shortly after the sudden lowering of the temperature. So that if we stop to think of an inflammation of any other organ of the body, except the lungs, sufficient to cause a temperature of 103° to 105°, or more, we cannot conceive of the temperature suddenly dropping to or near to normal, and remaining there while the local evidences of the inflammatory process go on, or are little, if at all changed.

When the air cells are filed with a fibrinous gestion of the neighboring lung tissue as well as germ of pneumonia, that is in the stage of red hepatization, we find the alveolar walls very friable and easily broken down, so that we must conclude that the active development of the germ must in some way affect the parenchyma of the lung. This leads us to think of an active inflammation where the lung tissue itself is affected; but I am convinced that such does not take place, but the following course of events explains to my mind what does take place: The pneumococcus, finding access to some of the smaller bronchi or to the air cells themselves, there irritates the delicate epithelial cells sufficiently to cause a slight exudate from the pulmonary circulation, thus forming a culture medium on their walls for the further development of the germ. Thus activity in the air cells, or the living test-tube, as it were, causes a further active and exuberant fibrinous exudate from the pu- and exuberant fibrinous exudate from the pul- cells, and is known as the stage of engorgement. This makes ample material for the rapid development of the germ, which in its life's process elaborates the toxine causing the fever and all the symptoms of an infective process in the system.

As the second stage of the disease known as red hepatization comes on, we get a marked swelling of the exudate, thus causing an overflow, as it were, of the semisolid exudate into the bronchi leading to the infected area; and through the act of respiration some of this is

carried into neighboring air cells, setting up a like process in them, which may be from a few hours to a few days behind the main process, hence the patches of red and gray hepatization lying side by side, which so frequently give rise to the cut-lung surface having a marbled or mottled appearance; also giving rise to the oft-seen erratic crisis, or the falling of the temperature by lysis, and the return to the normal gradually, recovery thus being affected in such a way and in proportion to the amount of the extension and in relation to the time of such extension.

The third stage, known as gray hepatization, marks well the beginning of resolution.

I have purposely cut short the description of the gross pathological changes in the lung, so that I might use some of the short time allotted to me in speaking of that which may stimulate discussion, so that now I am going back to the mention of the air cells acting as test-tubes for the development of the pneumococcus.

When we stop to think that we have two separate and distinct circulations in the lungs, we can at least begin to realize how we may have an exudate from one without the other being involved to any great extent. The functional or pulmonary circulation seems to me to be the one involved in the fibrinous exudate, and the development of the disease under consideration, while the bronchial or nutritive circulation may, and no doubt does, go on practically unimpaired, for if we had cessation of the nutritive circulation, as we do have with the pulmonic circulation in the affected area, we certainly should have gangrene of the parts. This, of course, does take place in certain cases in limited areas, but it is the exception, and not the rule, as we would have were we to have the nutritive circulation interrupted for from four to eight days. So that we can see from this that a diseased or pathological condition may go on side by side with the physiological condition without affecting the latter very markedly, where we have two separate systems of circulation as is the case in the lung, even where they are so intimately related as we find them in this organ. In further evidence that the nutritive circulation going from the left side of the heart is little, if at all, impaired, I shall offer you the suggestion that if we stop to think how rapidly the softened liquefied exudate is taken up by the bronchial circulation, we can no longer doubt its integrity, showing the absorptive apparatus to be in good working order as well as the nutritive process being practically unimpaired. As the pulmonic circulation is practically abolished in the affected area, absorption of the toxine from the life process of the germ may be carried on by the nutritive circulation, one of whose functions is to take up waste products or by-products from the system. We know that the functional circulation is to eliminate, rather than to take up, from the blood such products, as well as to take up the fresh supply of the life-sustaining oxygen from the air within the lung. As long as consolidation is spreading, or new areas of lung become involved, just so long will a fresh supply of toxine be thrown into the circulation, and fever and general toxic symptoms will persist. We find here, as in artificial cultures, that there is a limit beyond which the process cannot extend. A given quantity of culture medium can sustain the life of a given number of germs only for a certain length of time; that is, the further growth and development and multiplication of the germ must cease, as its nutrition is all used up, or, at least, the changes in the culture medium render it unfit for their growth and development.

With the cutting short of the supply of toxine the temperature falls, and most of the toxic symptoms subside. If the invasion of all the area involved has been even and rapid, the temperature drops suddenly, and we say the patient has passed the crisis; but if the invasion has been slow and has extended at intervals, the supply of toxine is cut off, first from one area and then from another, and we have defervescence by lysis; or, as is noticed in some cases, we have an irregular or partially repeated crisis. The pathology of the blood is questionable, outside of its containing toxine from the germs, and in many cases the germs themselves. However, we have some evidence that, later on in the disease, the blood also contains an antitoxine, but of this we know very little, as its use so far, in the treatment of the disease, is in most cases only encouraging, and is of little use as compared with the antitoxine of diphtheria used in controlling that disease. Some observers of late, claim a marked diminution of the alkalinity of the blood in pneumonia cases, and think possibly we may look for a part of the symptoms to come from an acid toxemia. This theory comes from the growing of cultures in test-tubes side by side; the pneumococcus being grown in serum from pneumonia cases and in normal blood serum, the latter remaining clear while the former becomes very cloudy and markedly acid in reaction. Unquestionably, there is an acid re-action to the fluids in the pneumonic lung, which is thought by some to contribute to the determining of the crises, the crisis being produced by the development of the antitoxine and because the supply of food material is used up by the germ, together with, and in the development of, an acid in the area infected, all tending to cause the death or inactivity of the germ.

FOR DISCUSSION SEE PAGE 404

SYMPTOMATOLOGY AND DIAGNOSIS OF PNEUMONIA

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I appreciate the fact that I am probably talking to a body of men who know a great deal more about my subject than I do. It certainly is not expected of me to say anything new. I recognize that this paper should be considered only as a link in the symposium's chain. I shall not attempt to go into detail, but simply to point out the diagnostic points in the ordinary case, and that in the adult. In passing, I shall only say that in children we recognize the onset usually by its association with convulsions rather than chill; that the course is of shorter duration, and convalescence more rapid.

Lobar pneumonia is a disease characterized by abrupt onset, usually with a chill; by pain and cough, accompanied by rusty sputum; by great prostration; by physical signs peculiar to itself; and by termination by crisis on the fifth, seventh, or ninth day.

Clinically, it presents three stages: the period of onset, the period of consolidation, and the period of resolution.

The typical case is not difficult of recognition, and what cases I have seen have seemed to me fairly typical. Perhaps I have overlooked the atypical ones, but I hardly think it probable, for I believe the tendency is to diagnose kindred diseases as pneumonia rather than to diagnose pneumonia as some kindred disease. Occasionally we are tempted to believe that some one has been slow to recognize it; as, for instance, when we read in the daily press of some "new" devastating disease in a mining camp. Later and saner reports, however, usually show that it is the alarmed community rather than the physicians who have made the discovery of something novel in epidemics.

The onset is so regularly accompanied by a severe chill that absence of it makes one guarded in pronouncing a positive diagnosis. No other disease, except perhaps malaria, is so regularly ushered in by a rigor, and with the same exception no other initial chill is so severe. Immediately the temperature, pulse, and respirations are accelerated, the temperature reaching 104° or 105° F., the pulse becoming full, tense, and bounding at about 110-120 beats per minute, and respirations from 40 to 60. The face is flushed, the skin dry and the patient is fully convinced that he is ill. Ambulatory types do occur, but they are certainly rare. Only rarely is there a prodroma of a day or two of headache and malaise.

Pain in the side over the affected area is a usual accompaniment unless the lesion be central, when, there being no pleuritic inflammation no "stitch in the side" exists. The cough is dry, hard, and suppressed, and accompanied by a thick, tenacious, bloody sputum. Examination of this sputum, microscopically, reveals a mixed infection, the diplococcus lanceolatus predominating. On a few occasions, I have been entirely unable to demonstrate this organism, but in its stead, Friedlander's or the influenza bacilli were present. Streptococci and staphylococci are practically always to be found.

The urine is scanty and high-colored, carrying a large percentage of urea, occasionally some blood and albumen. Chlorides are said to be diminished, but I have not always been able to verify this.

The patient lies on the affected side. The tongue is coated, and constipation is the rule. Early diarrhea generally means excessive toxemia, and is an unfavorable sign.

At this stage the percussion note over the chest may be more resonant than normal, and what râles are present are dry. Where consolidation is beginning the crepitant and subcrepitant râles may be heard at the end of the inspiration.

When consolidation is well advanced, as occurs frequently at the end of twenty-four hours, the pulse has become more rapid, the temperature may have risen a little, and respirations have become chiefly abdominal. Marked dullness and tubal breathing now prevail over the site of the diseased lung tissue, such sites usually being over the base of the right lung or over the apex of the left. If double, however, the lower lobes are most commonly the affected ones.

The symptoms and signs now continue practically the same until the crisis is reached and resolution begins. The work of the right heart, however, is usually more and more excessive, and death from its overloading may come on at any time. If the patient reaches the crisis, the temperature falls to normal or below, dullness begins to disappear, moist râles take the place of tubal breathing, lack of vocal fremitus is less pronounced, and resonance becomes less impaired. Convalescence is rapid unless complications in the way of effusion or pyothorax develop. If resolution is slow, and the crisis is not marked by a return to temperature approximating normal, one has reason to fear empyema, or pyothorax. Acupuncture and blood examination will certainly determine.

Differential Diagnosis.—As pneumonia is practically always accompanied by more or less pleuritis, the early distinction is sometimes difficult. As soon as consolidation begins, however, the diagnosis becomes more easy. Then perhaps it may be confounded with effusion. The percussion note in effusion is more flat, and the

area of dullness is often in excess of a lobe. Bulging of the intercostal spaces is more marked, and there is a difference in the loss of vocal fremitus. The line of effusion on change of position is noted, and the appearance of dullness is accompanied by a cessation of pain and a reduction of temperature.

Pneumonia is to be differentiated from a consolidated tubercular lung area chiefly by the microscopic findings, but also by previous and present histories and by a marked difference in elevation of temperature, and respiration and pulse ratios.

Occasionally typhoid fever begins with severe symptoms referable to the chest, and a positive diagnosis can sometimes only be made by waiting and watching. Although a hypostatic pneumonia is not rare late in typhoid, it is seldom so complicated early. A careful examination of the chest in all suspicious cases will usually decide pretty early one way or the other. Revised diagnoses are not rare, however.

Lobar pneumonia is differentiated from bronchitis and bronchopneumonia by age, previous history, and by careful chest examination, which reveals no large areas of consolidation.

I have already spoken of the method of diagnosis from pyothorax.

These are the most common diseases which we are called upon to eliminate. In addition I might mention pulmonary congestion, pulmonary edema, pulmonary infarctions, pulmonary gangrene, pulmonary abscess, delirium tremens, cerebrospinal fever, and the acute abdomen. If, however, a careful examination of the chest be made, and histories be carefully gone into, and blood counts be practiced, errors in diagnosis are not often made.

I have purposely omitted detailed descriptions of vocal fremitus, subcrepitant râles, tubal breathing, etc., partly because time is limited, chiefly because I do not feel equal to the occasion.

Referring to the subcrepitant râle I beg your further indulgence while I tell a short story, for whose age I shall not be responsible. A professor took a few of his students to the bedside of a patient, who had the early signs of pneumonia. After listening intently with his ear against the patient's chest, he turned to his students and said: "Gentlemen, it gives me pleasure to demonstrate to you so early in your course of instruction that interesting sound of which you have heard me tell in my lectures. I have told you it must be heard to be recognized. I want you to listen intently for a sufficient time to familiarize yourself with the subcrepitant râle. You cannot fail to distinguish it, for it is typical."

One of the students proceeded to add to his store of knowledge. The other, in endeavoring to get close to the manipulations, placed his hand somewhat ungently on the bed. The result spoiled the lesson for that day. With a yelp and a bound a small lap dog scooted from under the covers. He had stopped snoring, and the râles had disappeared.

FOR DISCUSSION SEE PAGE 404

THE GENERAL TREATMENT OF PNEUMONIA

By C. M. Wilson, M. D.

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The discussion of the general treatment of so common a disease as pneumonia might at first thought seem unprofitable. It is not so, however, to the earnest and conscientious physician whose highest ambition is to save and prolong life.

The medical profession may justly be proud of the great advances in medical and surgical knowledge, yet we stand to-day face to face with great problems which remain to be solved. The treatment of pneumonia is one of those unsolved problems.

Pneumonia is met with everywhere, and in temperate climes is productive of more deaths than any other one disease. What is worse, it is clearly demonstrated that its prevalence and mortality rate is slowly increasing. It does not fall within the scope of this paper to discuss the possible or probable causes of this condition, but in view of the proven fact, it is wise for us to pause and consider whether, as individual members of the medical profession, we are profiting by the experience of others and are putting forth our best endeavors to mitigate the terrors of the dread disease.

Many times, in my earlier professional experience, after a series of successful cases I have hoped, and, perhaps for a time, believed that I had at last found the treatment for pneumonia, only to have, at a later period, the conceit completely knocked out of me. I have learned that in some cases of pneumonia the vital forces of the patient are so overwhelmed with the toxines at the very onset of the disease that the patient is bound to die in spite of the best methods of treatment known; that many will recover without any active treatment; and some in spite of bad treatment.

Dr. Wells, of Chicago, states that in quite a large number of persons examined the pneumococcus was found in the secretion on the tonsillar surfaces or upper respiratory passages in more than 45 per cent. In families where recent

cases of pneumonia had occurred, the bacterium was found in every, or nearly every, member of the family.

The pneumococcus being probably disseminated largely by the coughing and expectorating of persons harboring the germs, may form at least a partial basis for the prophylactic management of pneumonia. This would indicate that in every case of pneumonia, for the protection of those caring for, or coming in contact with, the patient, the utmost care should be taken for the destruction or disinfection of all sputum and discharges coming from the mouth and nose of the patient. This is best accomplished by receiving the moist secretions upon small rags and immediately burning them, or by the use of a spit-cup containing a disinfecting solution. It will also add to the safety of the attendants if they keep their own respiratory passages clean by frequent spraying with some mild antiseptic solution. The towels, napkins, bedding, handkerchiefs, glasses, cups, spoons, etc., should not be used by other members of the family until properly sterilized.

The time has come when the general public should be better enlightened as to prevention, so far as possible, of this much dreaded disease. I believe that the laity will willingly co-operate with the medical profession in the employment of rational prophylactic measures just as soon as simple and definite rules can be formulated. Municipal regulations looking to the prevention of promiscuous spitting and expectorating upon the streets and in public places and conveyances where the dried mucus mingled with the dust may be blown into the faces of the people, should be taught and more rigidly enforced. The public ought to be taught also that pneumonia patients should be isolated from contact with others. Also the room where a case of pneumonia has been treated should be as thoroughly fumigated, as after other contagious or infectious diseases.

As in all great questions affecting the public health, the medical profession must take the lead and show the way. With the accumulated knowledge of the past in destroying disease germs and with advanced methods of preventive sanitation, the hope is warranted that the near future will witness a marked diminution in the number of cases of pneumonia. During any marked prevalence of the disease, the question is often asked of the physician, what, if anything, can I do by way of prevention? My answer is, "Keep away from any case and strive to keep perfectly well." Avoid excesses of all kinds and exhaustion from overwork, whether mental or physical, loss of sleep, or anything which depresses the vital forces. The grip or an ordinary coryza or bronchitis should not be neglected. A paretic state of the laryngeal and bronchial reflexes due to any of these causes, may permit the aspiration of pneumococcus-laden particles of mucus from the upper to the deeper respiratory passages.

Whenever the bowels are sluggish, the tongue coated, the urine scanty, and other evidences of a disturbed metabolism, fatigue is easily produced owing to the retained toxines, thus predisposing to the easy introduction of the pneumococcus germ.

I have not the time to review the changes and vacillations in the past treatment of pneumonia. The older members of the profession are familiar with many of them. To the younger physicians it would be unprofitable. Specifics have been sought for, but thus far in vain. We have hoped for and would gladly welcome a trustworthy antitoxin. My experience with the antipneumococcic serums placed upon the market has been rather limited. Reports as to the efficacy of any thus far furnished to the profession are conflicting and mainly unfavorable. The difficulties in producing a serum which is reliable seem almost insurmountable. All pneumococci are not the same. Morphologically they may appear to be alike, but as regards infectiousness and virulence they show the greatest differences. We must remember that all pneumonias are not caused by the pneumococcus alone, but that several other microörganisms may be present as mixed infections. Many times some drug, like guaiacol or creosote, or some special line of treatment, has been lauded, and braced up with a limited statistical table, and has seemed to hold out a promise of improvement, but a larger experience has relegated them to the rear. In later years the expectant plan of treatment seems to have triumphed over all others. Pneumonia is a self-limited disease, and if life can be prolonged sufficiently for the body to produce its own antitoxin, the patient recovers. What can we do to aid nature in this fight for life? That seems to be the all-important question for us to consider.

In the first place, the patient's environment should be the very best which is available, and that, of course, differs according to the circumstances of the patient. The sick room ought to be large, sunny, and well ventilated. The nursing should be constant and tactful. If trained nurses are unavailable, some intelligent member of the household should be held responsible for strictly carrying out the instructions of the physician. Unless the nurse is thoroughly competent, frequent visits should be made by the physician, in order that any danger signals may be early recognized. All visitors should be rigidly excluded from the sick room, partly to insure quiet and repose to the patient and also to prevent the possible infection of others. The clothing should be so arranged as to permit an easy examination of the chest. An abundance of fresh air should

be provided without direct drafts blowing upon the patient. The temperature of the room should be maintained at from 65° to 75°. For the initial chill, the most that can be done is to wrap the patient in warm blankets, apply heat to the surface by hot water bags or bottles under the bed clothes, and give some hot drinks, but except in alcoholics I would not use spirits. As soon as the chill has passed, I usually give half a dozen ¼-grain tablets of calomel at half hour intervals to be followed by a saline cathartic. The nausea and vomiting, sometimes troublesome at the outset, are usually relieved after the free evacuation of the bowels. If they should persist, cerium oxalate is a good remedy and at the same time the amount of nourishment must be greatly restricted, three ounces of milk with an ounce of lime water once in three hours being sufficient. Give water freely. It allays the thirst, reduces the fever, and increases the elimination of toxins by promoting diuresis. A sharp, cutting pain in the chest and a persistent, troublesome cough are sometimes so intense as to require attention. The old-fashioned mustard plaster will often afford much relief. In sthenic cases I frequently use the ice-bag, but in the young or weak persons, I prefer hot applications. If these measures do not afford relief, and if cyanosis and edema are not present, morphine or codeine, in small doses, are indicated. In fact I believe that these remedies are necessary oftentimes when there is great restlessness, loss of sleep, or active delirium. Tympanites, which often sets in early, especially in catarrhal cases in young children where much sputum is swallowed, should never be neglected, as it interferes with the action of the diaphragm, impeding the action of the heart and lungs. The bowels should be evacuated daily. High colonic irrigations with a long, soft tube and warm, normal salt solution, should be frequently used. Turpentine stupes are of value. If the milk diet seems to prolong and intensify the condition, it becomes necessary to substitute for it meat broths, albumin water, and perhaps the liquid beef peptonoids. Personally, I am not much worried by moderately high temperature. When it is 103° or above, I advise frequent cool sponging, followed by an alcohol rub. The application of cold to the head and to the chest is often agreeable and comforting to the patient. In extremely high temperature the cold pack is justifiable.

The coal-tar antipyretics are certainly contraindicated in this disease, though I suspect that they are frequently resorted to. The pulse should be closely studied for it is the most important indication of impending troubles. A slow pulse is not always a safe sign, neither does a rapid pulse always denote danger. It is the *quality* which must be studied, as that points to safety or danger.

A hard pulse can be softened by veratrum or nitroglycerine, but in my experience, especially in the pneumonias of high altitudes, such a condition is rarely or never found. I believe that in practically every case the vascular tension is lowered from the outset of the disease.

I cannot take the time to discuss the theories of the cause of this condition, but it is a factor which must be taken into consideration in the proper treatment.

Of course, it is universally recognized that the greatest danger in pneumonia is cardiac and vasomotor failure, due, to some extent, to the mechanical obstruction to the flow of blood through the solidified lung, but, more especially, to the toxines acting upon the nerve centers of the vasomotor system. At the earliest sign of heart failure, vigorous stimulation should be commenced; in fact I believe it best to forestall progressive heart failure by moderate stimulation from an early period. Jacobi once said that the time to treat heart failure is before it happens. He was speaking of diphtheria, but the maxim applies equally to pneumonia. It is just here that the physician's best judgment and skill will be put to the severest test. To win a closely contested race, it often becomes necessary to use the whip and spur, but the wise jockey knows that they must be used with discretion or the result will be disastrous. So stimulation at an early stage might be so excessive as to produce or hasten exhaustion of the laboring heart. To conserve the strength of the patient, *rest* is of the utmost importance. How often are our patients disturbed and fretted by the frequent applications to the chest, frequent administration of medicines, frequent baths, etc. I have seen half a dozen kinds of medicine, mixtures, tablets, pills, etc., to be given every few minutes, or hot poultices were being applied at very frequent intervals. The physician and friends all wanted to be doing something constantly. That is all wrong. Better plan to give the patient two hour intervals of rest during the day and longer at night, if he should sleep. The patient ought not to be allowed to turn in bed without assistance, or to sit up to attend to nature's calls. Nor should he be worried with any business or family cares. In the medicinal treatment of this disease, we cannot observe any absolutely fixed rules, because the cases vary so much. To forestall and prevent the lowered arterial tension, I resort, at an early period, to strychnia in moderate doses, often in conjunction with ergot.

The latter remedy is an equalizer of the circulation by constricting the dilated blood vessels. It also has a good effect in preventing edema of the lungs and also of tympanites. If the pulse

grows more rapid or irregular, the strychnia is increased and digitalis is added, perhaps also caffein. Adrenalin, though more transient in its effects, has a more powerful influence upon the vasomotor system than ergot. As a stimulant to a failing heart, camphor, which can be used hypodermically in a ten per cent solution of sterilized olive oil or ether, is excellent. Compound spirits of ether or aromatic spirits of ammonia in moderate doses repeated every ten or fifteen minutes are of value as emergency measures. Hypodermoclysis has been known to help some patients who seemed past all hope of recovery. When the respiration is shallow, intermittent and irregular, cyanosis extreme, the pulse scarcely perceptible and there is coma, the hypodermic injection into the flanks of hot normal salt solution will sometimes produce a surprising response, causing the patient to rally for an hour or two, when it may be repeated. The rectal injection of salt solution may also be of service.

When dyspnea and cyanosis are marked symptoms, oxygen is a most valuable remedy, but unfortunately it is not always available on account of the expense. It is easily wasted and is of but little service where all the windows are tightly closed, with perhaps a coal stove and coal oil lamp burning and a room full of people.

In alcoholics, whisky or brandy are necessary during the entire course of the disease, but the amount and intervals should be carefully regulated. In non-alcoholics I do not believe that it is of much service except in emergencies. In old people with hard pulses and asthmatic tendencies, nitro-glycerine is often of value. It is a powerful remedy which is often abused.

Dry cupping of the chest with atropine in 1-100 gr. doses for its stimulating effect upon the respiratory centers are recommended in pulmonary edema and upon reasonable grounds.

Dr. Wells and also many other eminent physicians and specialists speak highly of venesection followed by large enemas or hypodermoclysis of normal salt-solution. I cannot judge of the procedure from personal experience, but in suitable cases, it would theoretically seem to be a rational thing to do. The elimination of toxines and at the same time keeping up the blood pressure is the object aimed at.

I have never seen any good in the so-called expectorants in croupous pneumonia, but, on the contrary, they may do positive harm. In the bronchial or catarrhal type of the disease they are oftentimes useful. I do not think that the muriate or carbonate of ammonia have any effect in liquifying the viscid secretions, or making their expulsion any easier. Of the various applications which are often applied externally to the chest I have not spoken, for I have no confidence in their power to control in the slightest degree the inflammatory processes in the lung. In young restless children I advise the cotton and oil silk jacket to preserve an even temperature over the chest. Beneath this I advise the application of warm camphorated oil. Wet, sticky, foul smelling poultices I regard as an abomination. True, hot applications are of value in the relief of pleuritic pain, as heat is usually soothing to pain in any part of the body. So the ice bag, in suitable cases, will relieve pain, help reduce fever and stimulate a weak heart. As a routine measure, however, frequent applications will only serve to weary and disturb the patient without much or any material benefit.

In this brief paper I have only endeavored to *outline* the best known modern treatment of pneumonia, hoping that the experience of those present will in the discussion amplify and fill in the details.

FOR DISCUSSION SEE PAGE 404

SURGICAL COMPLICATIONS IN PNEUMONIA, AND THEIR TREATMENT

By Samuel H. Allen, M. D.

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Empyema, serous effusion, abscess, and gangrene of the lung constitute most of the surgical complications of pneumonia. Empyema is the most common of these. Dr. Osler was fond of telling his classes how often large serous effusions and empyemata stared the doctor in the face, and were never recognized. I quote these words from his "Practice of Medicine:"

"It is sad to think of the number of lives which are sacrificed annually by the failure to recognize that empyema should be treated as an ordinary abscess by free incision. The operation dates from the time of Hippocrates, and is by no means serious. A majority of the cases get well, providing that free drainage is obtained; and it makes no difference, practically, what measures are followed, so long as this indication is met. The good results in any method depend on the thoroughness with which the cavity is drained. Irrigation of the cavity is rarely necessary unless the contents are fetid. Sudden collapse has happened during irrigation, and a remarkable accident is the occurrence of convulsions. The physician is often asked in cases of empyema with emaciation, hectic and feeble rapid pulse, whether the patient can stand the operation. Even in the most desperate cases the surgeon should never hesitate to make a free incision."

As Dr. Osler says, the chief thing is to provide free drainage, and this is best accomplished by the subperiosteal resection of a rib. In some

cases, when the pus is all in a liquid state, simple incision and drainage with rubber tubes will be sufficient; but in many cases the surgeon will find large serofibrinous coagula floating in the pus, or adherent to the chest-wall. In view of this fact, resection of a piece of rib is the safest and best procedure. The surgeon can then introduce his finger into the cavity, break up and remove the large coagula, which would not come away through the incision or drainage tubes.

The best point for the incision is in the post-axillary line as low down as possible, so as to have the drainage from the lowest part of the chest cavity, and yet not so low as to have the opening covered by the diaphragm, which rises as soon as the chest is emptied of its contents. The sixth, seventh, or eighth rib will be the best point of entrance. The incision is carried through the skin, fascia, and muscle to the rib. The periosteum is now opened and stripped of its anterior surface. A stout curved needle threaded with strong silk, is passed around the bone, drawing a wire saw through, with which the one and one-half inches of rib are cut off. A pair of large tissue forceps or hemostat is now thrust through the intercostal space above the resected rib. By spreading the jaws of the forceps an opening can be made as large as desired. The finger now explores for the large coagula, either floating in the cavity or adherent to its walls. After removing these, two large drainage tubes are inserted and stitched to the edges of the skin incision, and also pierced by large safety-pins to prevent their being drawn into the cavity, an accident which has occurred in my own experience. During this part of the operation the incision and tubes should be firmly covered by a large gauze pad to prevent the too rapid evacuation of the pus and danger of sudden collapse. A generous gauze and cotton dressing, covered with oiled silk and binder, is now rapidly put on, and the patient returned to bed.

A majority of these cases go right on and get well without requiring anything but changing the dressings and keeping the wound clean. At the end of the week, one tube is taken out; the other one remains as long as the discharge keeps up, being cleansed and renewed as often as the case demands.

To insure the expansion of the affected lung, it is of vital importance to get the patient up on the second or third day, and start him to blowing water daily from one bottle to another. This apparatus can be arranged in any home with two large fruit jars, some large corks, and some small glass and rubber tubing.

Serous effusion should be diagnosed early and treated by prompt tapping or aspiration, repeated if necessary two or three times. Osler says:

"During aspiration, if the patient feels faint it is best to interrupt the operation, for sudden death has occasionally happened during the withdrawal. It is, however, a much less common accident than sudden death in cases of full pleura without operation. There are cases in which the liquid persists for a month without undergoing any special alteration, or without becoming purulent."

Abscess of the lung, if it can be located, is treated by incision and drainage. Gangrene of the lung has been cured by surgical intervention. It should be observed that all these operations, though simple, require the rigid observance of the rules of modern surgical cleanliness.

DISCUSSION OF THE PRECEDING PAPERS

Dr. Lyman Skeene: There are only a few points that I care to take up, or to emphasize to any extent. In the first place, among the etiological factors I think we should look to conditions existing in the upper air passages for an obstructive condition due to adenoids or hypertrophy, since these play an important rôle, mainly through the fact that they are predisposing factors. Imperfect breathing may exist from catarrhal conditions in the upper air passages. The distinctive germ or some pathogenic organism may be present there all the time, but given suitable conditions for its growth and development, it will multiply and thrive, and what better conditions could there be than a catarrhal surface that is covered with mucus, which is also warm and moist and suitable for the growth of the germ of pneumonia? Hence, I think, the upper air passages, the pathological condition of which results in predisposing conditions, have not received the attention they deserve; and this also applies to tuberculosis.

Other factors are social and climatic. The social phase is a question of sanitation or hygienic conditions. Epidemics thrive where these conditions are most imperfect. The sanitary conditions of even rural and country districts can be improved, and modern improvements can be made use of that provide nearly all the advantages of city life; but this state of affairs does not always exist, for in the poorer districts you will often find as many as fifteen negroes huddled together in quarters insufficient for less than half that number, often from 5 to 10 persons sleeping in one small, illy ventilated room. Bad air, the emanations from the human body, smoke, dust, and all such noxious and unsanitary conditions must be considered as etiological factors in this disease.

As to the communicability of this disease, I believe we all now admit that as a fact. We cannot destroy all the germs of the upper air passages, but I believe a chronic catarrhal condition of the upper air passages must be taken into consideration when we come to consider the communicability of the disease. As we cannot destroy all the germs infesting these passages, we can take preventive measures, and destroy or render unsuited the developing places of these organisms.

As to the pathology: There is one point covering the limitation of the disease that may be brought out, and that is the physical fact, the organization and contraction of fibrinous deposit, which is not unlike fibrin, tends to limit the disease. As to resolution: The leucocytes can easily produce a purulent material from this fibrinous mass in the air cells. I believe, in the future treatment, we must look to preventive methods as a means of controlling pneumonia as in

the case of tuberculosis. I refer not only to the matter of sanitation, but, in cases that come under one's observation, to the investigation of the condition of the upper air passages. Nasal and throat surgery will play an important rôle in the future of this disease, by the removal of hypertrophied structures, both of the nose and throat, and by proper attention to chronic catarrhal states of these regions. These are matters that, if attended to and given the consideration they merit, will go a long way in limiting and preventing the future spread of this affection.

Dr. Bower: The request to continue the discussion comes quite unexpectedly. I am sorry that I was not here in time to hear all that has been said upon this interesting topic. I believe that the different papers have quite thoroughly covered the ground, and leave little of any importance to be said. However, I thoroughly believe in prophylactic measures in these cases, as it is eminently proper to do all we can to prevent the spread of the infection, as well as infections in general.

As to the pneumococcus, which has been mentioned. I have had comparatively little experience in the use of the serum, but the little experienc that I have had has been a help, and brought very good results. It takes a little longer than I expected to get these results. It is often from 24 to 36 hours before the serum takes any effect. In the treatment of pneumonia, I rely, in the first place, upon the carbonate of ammonia, and there is no remedy that I rely more upon than this. I give it early, and occasionally I prefer or use instead of the liquor acetatis with water, with about from 5 to 7 grs. of the carbonate, given every three or four hours. In connection with this or independently turpin hydrate may be used to advantage, and codein for the cough. I apparently get very good results from this treatment. I have recourse to a little tr. opii or syrup of squill, but, ordinarily speaking, I use the two remedies, elix. turpin hydrate and codein to allay the cough and produce quiet. If the pulse is failing, I resort to strychnia and nitroglycerin. I allow these patients all the water they desire, and sometimes this may be sterilized or filtered to advantage. It may be given freely. To act upon the bowels, I find nothing better than one-quarter grain doses of calomel, and I use it always if the bowels are at all locked up and the patient is restless. For restlessness, Dover's powder may be given with benefit. It acts admirably, and gives the desired rest. There is one preparation which I consider rather dangerous, especially in the case of children, and that is Heroin, although it may be serviceable in older persons. It has a marked depressing influence, and is not well borne by children as a rule, and a preparation of paregoric, Dover's powder or deodorized opium, is preferable, if the codein does not allay the suffering. Children respond to the ammonia preparation that I have mentioned, the turpin hydrate and codein, although you may not always get the same action in the case of children, although they respond well as a rule. I believe that the cotton jacket, either alone or with turpentine applied underneath, covered with oiled silk so as not to make changes every few minutes, which was required with the old linseed poultice, is better; not that it has no virtues if applied hot and kept up. It holds the heat better than antiphlogistine, but I have sometimes seen good effects from the use of the latter, which I think, ought to be applied about an eighth-of-an-inch thick. I have used it with very happy effects, although I think there is nothing superior to the jacket and the oiled silk. The treatment of pneumonia, therefore, as I would undertake to manage a case, would embrace the items that I have mentioned, the anti-pneumococcic serum, the ammonia preparations, strychnine, Dover's powder, and the elixir of turpin hydrate and codein, and whiskey and brandy when necessary.

In pleuropneumonia, do not hesitate to give morphine, for the required rest; for it is essential, as the doctor said, to give rest, and this may be accomplished with what I have already outlined. I advise against chloral, because it is a depressant and the heart is soon overtaxed, overburdened, and weak, and it is therefore a dangerous drug to use. Finally, if you do not give too much medicine the pneumonia will stand a chance of being overcome, and the patient will stand a chance of getting well.

Dr. Ezra Rich: It seems to me that the surgical treatment of pneumonia embraces nothing important or noteworthy. We encounter surgical conditions, such as effusion into the pleural cavity, and operative measures of course are made use of. I believe, however, that climate has much to do with the course of this disease, and that it is perhaps of a less serious nature here than in many places, perhaps owing to the fact that tuberculosis is not prevalent amongst us, and that a very limited number of cases of primary infection with the tubercle bacillus occurs in high and dry altitudes. For this and a few other reasons the surgical complications are relatively fewer than in places where tuberculosis is more prevalent.

In the management of a case of effusion into the pleural cavity, the case would resolve itself into the simple operation of aspirating or the more radical operation of removing a portion of the rib, or the establishment of drainage into the pleural cavity. I believe it is a good method to carefully aspirate the fluid, unless it is very purulent, and if the symptoms are urgent, it is not well to wait a day for the more radical operation. One of the main points is to avoid the introduction of air into the pleura, and this can be easily done with an aspirating tube, applying suction to one end of it. If the effusion seems purulent, I believe it is then necessary to provide for good drainage and plenty of it, and if the material seems septic and ill-smelling and foul, I believe it is advisable to irrigate the pleural cavity, although if the condition of the effusion is not so, I do not think that irrigation need be practiced.

There is one point that I have been impressed with, especially in children, and that is where it is necessary to open the pleural cavity, and we frequently see that, in a very nervous state and a septic condition, the patients are exhausted, and it often becomes necessary to give chloroform to make drainage into the cavity. I notice that when these conditions prevail an anesthetic may be used with safety, but in doing so it is best to give as little of it as possible, resecting one or two ribs, if necessary, and leaving the pleural cavity unopened until the patient has come from under the influence of the anesthetic. There is a certain amount of shock in removing a pleural abscess, and if the patient is allowed to come out of the chloroform, especially in left-side pleural effusion, there is less danger of the heart action from shock, while there is not much pain, in opening the pleura, and it takes only a moment or two. Moreover, there is no special danger of bleeding from the intercostal arteries. The severer forms of pleural effusion, with greater thickening of the walls, may necessitate an extensive operation, but I think these rarely follow lobar pneumonia, and when they do the more radical operations are called for, loosening up a great part of the chest wall, which allows it to collapse. The necessity for urgent interference, a quick operation, is generally very much less than it is in other parts of the body, and lung and pleural complications are not as a rule immediately dangerous: and therefore, we can usually take time

enough to make sure of the diagnosis, and get our patients in the best possible condition before the work is attempted.

In gangrene or abscess of the lung the surgical procedures would be essentially the same, the same as opening the pleura, but in gangrene it may be necessary to part the lung tissue with the cautery, instead of the ordinary knife,—I mean enough to prevent hemorrhage.

Dr. Critchlow: There is just one point in the discussion of the signs and symptoms of pneumonia which I believe is more frequently overlooked than any other, and that is the prevalence of abdominal pain, without any other evidence of a pneumonia. Osler mentions this, but I know of few authors who mention it, or who refer to it in any way at all; and in this connection I will cite a case that occurred in the practice of Dr. Worthington, which I was called in to see. There was simply an abrupt rise of temperature. I am not sure if there was a preceding rigor or not, but the only pain experienced was referable to the abdomen, and there was no cough and no pain of any description about the chest. The temperature rose to 103.5° or 104°, and was associated with a general or diffused abdominal pain, but more particularly centralized about the gastric area. A search was then directed to the chest, and the usual signs were practically lacking, but the suggestion was made that it might possibly be the development of a pneumonia. We waited, and in the course of a day or two the pneumonia was of a decidedly positive nature. I mention this case simply to show that the rise of temperature was the only symptom of pneumonia beside the abdominal pain.

Dr. R. A. Pearse: There is one point that I believe has not been made as forcible as it should be; and that is that we do not get at the physical signs of pneumonia sufficiently. I think we ought to rely more on the stethoscope, the phonendoscope, or auscultation generally, and percussion; for, if a case is slow in making its appearance and the symptoms are illy defined, the use of the stethoscope is a material help, and will enable us to detect where respiration is diminished and where it is tubal in character. Referring again to the surgical part of the case. You will remember that you seldom see effusion into the pleural cavity, but this may be due to the fact that we do not look out for this condition enough. It may be there, but we may have failed to notice it. I believe it is relatively rare as a complication, but every once in a while we find a quart or a gallon of pus accumulated, and it is always well to be on the lookout for it, for it may exist in cases that would hardly lead you to suspect its existence.

THE PRESENT STATUS OF THE TREATMENT OF PROSTATIC HYPERTROPHY

By E. O. Jones, M. D.

MURRAY, UTAH

The subject of the enlargement or so called hypertrophy of the prostate still occupies a very important place in the medical mind, not only because of the prevalence of the malady, but also because of the impetus given to its surgical treatment by the clinical and experimental observations of the last five or eight years. Surgical methods have been perfected, and the death-rate has been reduced, but the latter is yet an important factor, when considering what should be done in a given case. Therefore, notwithstanding the improvements in technic and the valuable results of operation, any attack upon the prostate is still to be regarded as an important operative procedure, not to be undertaken lightly nor without due consideration of other conditions of the patient who is to be subjected to the operative procedure.

The evolution of the operative treatment of the hypertrophied prostate forms an interesting chapter in medical history. For purposes of convenience it may be divided into two periods; the first being that which precedes 1890, and the second that which is subsequent to it. The former may be considered as the tentative or early part of its development, the latter as that of its activity, and its establishment among legitimate surgical procedures.

It is not unprofitable to review very briefly the steps that characterize these two periods. The first goes back to the early part of the last century, and until 1856, may be said to have been marked by a few suggestions put forward tentatively, and looking to the performance of partial removals or incisions of the obstructing parts of the hypertrophied gland, and by the performance and reports of a few isolated operations in which a part of the gland was enucleated, or resected, or torn off, usually by accident, in the course of the performance of lithotomies.

The first persistent advocate came to view in the person of Mercier in 1856 with whom the operative treatment practically speaking originated. The prostatotomy and resections of the middle lobe, or a bar at the neck of the bladder practised by Mercier through the urethra from the meatus, were not, however, favored in France or elsewhere. It is chiefly to Gouley of New York and to Bottini of Italy, that we owe the revival of interest in the subject; and I think it may be said perhaps that the subsequent extension and progress also have taken

place since 1870, at which time there was no operative treatment of this condition in actual use. To Gouley is to be referred the first definitely proposed plan, and clearly described method for total removal of the hypertrophied gland through the perineal route. To Bottini's frequent and earnest advocacy of his operation is due the preservation of the urethral operation of Mercier under a modified form.

One important step had been taken before this however, namely, an operation for the total extirpation of the gland for malignant disease, through a median perineal incision, and by morcellement, performed by Billroth in 1867. Another still more important one, but subsequent to Gouley's and Bottini's work was the total extirpation of the gland for malignant disease through the transverse incision of Celsus in the perineum, and by enucleation of it in one mass together with the prostatic urethra, the divided ends of the urethra being united by suture, and the patient making an operative recovery. This was done by Leisrink in 1882.

The next push in the right direction came from Reginald Harrison in 1884. A most important step in advance was next made by Belfield with regard to the suprapubic operation, and still more so by its being launched into favor, and in the form of a more complete operation by McGill of Leeds, England. By 1887 Atkinson, Jessop, Mayo Robson, and Mansell Moullin had become advocates of this method of treatment: but the generality of the leading surgeons of that day were unalterably opposed to all operative attack upon the prostate.

What has happened since 1890 may be briefly stated, as the establishment of the operative treatment, and the disappearance of the opposition to it, which existed prior to that time, has been due to the lowering of the mortality that was formerly associated with radical operations, by from one-half to two-thirds of its former percentage, and to the better character of the final results. A fact which is chiefly owing to improved technique, especially in connection with perineal operations, and in a less degree to a better selection of cases for the application of the operations, and knowledge of the circumstances which are suitable to their performance.

The more important steps and changes observed during this period have been as follows:

The introduction of the indirect operations of castration and vasectomy; their rapid rise into favor and their recent decline. The high mortality which attaches to the former, in which there has been no diminution, is the chief reason for its present lack of popularity. With vasectomy it is the uncertainty, and relatively small number of good results that have done the same for it.

A most important change has been in the substitution as a routine practice, of the total removal of the gland, for the partial removals, that were at first generally done.

The combined operation grew greatly in favor about half way in this period, but has lost ground very much, because of the improvements in the perineal operation, which have made it unnecessary.

In 1897 the Bottini operation, which had lagged behind the rest, came to the fore again, owing to the repeated and able advocacy of Freudenberg and to some modifications in the instrument and technique. It gained a foothold in France and in America, but has been in the hands of a comparatively small number of operators. At the present time its popularity has begun to grow decidedly less.

The most notable feature within the last four years is the remarkable manner in which the perineal operations have gained ground, due to the brilliant work of a number of able operators both in this country and in France. In England the suprapubic operation has taken a fresh start because of the interest provoked by the work of Mr. Freyer. His method however does not appear to have been original with himself, he having adopted, practically in toto, the operation performed by Fuller, of New York, some years previously.

In the treatment of every case of prostatic hypertrophy the question inevitably arises, to what extent is the catheter justifiable and when should the surgeon insist on more radical methods of treatment. It is the opinion of the writer that whereas in the vast majority of cases the interests of the patient would be best subserved by radical operation, there are instances in which such treatment cannot be carried out, or in which the patient refuses operation, when it becomes the duty of the surgeon to institute a palliative line of treatment.

Every surgeon is consulted by patients whose troublesome symptoms have developed so slowly that they seek relief only at a time when they are very old, infirm, and obviously bad surgical risks. These cases may often be made comfortable for the few remaining days of their lives by the daily use of the catheter, when they are carefully instructed and its use supervised by the surgeon. But if at any time such comfortable palliation ceases, at that moment the time for operative interference has come. Even with the inevitable risks, which a surgical procedure offers to the aged and infirm patient.

Another condition of prostatism occurs in patients who are younger and comparatively vigorous. In these the hypertrophy is accompanied with an atonic and enormously distended bladder. Frequently there is complete retention, but the patient will go from twelve to twenty-four hours without discomfort, so great is the capacity of the distended bladder. These cases are better treated by systematic catheterization until the atony has been overcome, when the hypertrophied gland should be removed.

There is still another class of cases, which consult the surgeon early in the development of the obstructive condition, for symptoms which appear to them very trivial. An examination reveals an hypertrophied prostate, a small amount of residual urine, and no evidences of vesical irritation. These are the cases which are really the most perplexing, in which judgment is the most difficult, and which demand the nicest discrimination on the part of the conscientious surgeon. Many of these patients are intelligent, cleanly in their habits, and live so that a fair degree of surgical cleanliness is possible. The occasional use of the catheter may render such patients comfortable for many years, living in comparative safety so long as they adhere to rigid cleanliness, and submit themselves to periodic examinations, for the detection of the first evidences of vesical irritation. On the other hand, many of this class are ignorant, poor, and live in the midst of a set of conditions that render any degree of surgical cleanliness next to impossible. Such patients should be operated upon at once, while the bladder is still clean, and all the conditions most favorable, rather than to take the almost certain chance of a severe and persistent vesical infection, and all its attendant dangers.

Should a palliative line of treatment be decided on the only form which should be advised or indeed countenanced is the use of the soft rubber catheter. All such methods as parenchymatous injections, the use of galvanism, or the passing of steel sounds, should be unhesitatingly condemned as being not only useless but positively dangerous.

The patient should provide himself with several soft rubber catheters of suitable size, and with the velvet eye and solid ends. He should be instructed as to the boiling of the instrument, and keeping it in a sterile soda solution. As a lubricant he should use a five-per-cent borax solution in glycerine. He should be particularly instructed as to the frequency with which he should use the catheter. This will be determined by the amount of residual urine.

Patients entering upon a catheter life should be fully instructed in personal hygiene. Assimilation and excretion should be promoted. Good digestion, daily and easy defecation, warm baths, and friction of the skin, warm clothing, plenty of food, sunlight, and air and exercise, are cardinal principles for the prostatic. He should drink at least three pints of good water daily, and plenty of milk, unless specially contra-indicated. He should be warned that the process commonly called taking cold, exposure to inclement weather, excess in eating and alcohol drinking, extreme bodily effort, and habitual constipation, all have a special and immediate danger for him, in that acute cystitis, and complete retention of urine are commonly provoked by any one of these.

The use of bladder irrigations should in general be avoided. When the bladder is clean there is no need for them. A slight bladder irritation may be relieved by irrigation with a bland antiseptic. But symptoms any more severe indicate a beginning infection, with which irrigations will be only temporizing. It had much better be met by early surgical treatment while the conditions are still favorable.

The same may be said of permanent catheterization. This should never be resorted to except for a few days after cases of complete retention, when it is done with the distinct purpose of preparing the patient for operation. It has been my experience that permanent catheterization after a very short time, instead of relieving the condition only adds to the infection, and jeopardizes the patient's chances for a surgical cure.

Attempts to improve the condition of the urine by internal medication have not in my experience been attended with pronounced success. Some benefit may be derived from the use of urotropine, or what I have found of more value, a mixture of equal parts of salol and boric acid. But as the digestive organs of prostatics are, as a rule, easily deranged, over-medication must be avoided.

Complete retention of urine is a comparatively frequent complication among prostatics. When called upon to treat such a case there are three rules of vital importance, which should be observed:

1. Never use force nor lacerate the urethra with the catheter. In other words, always use soft instruments when possible.
2. Observe the strictest aseptic precautions.
3. Never empty the bladder completely at one sitting.

In exceptional instances all flexible instruments will be arrested before reaching the bladder. In such cases a metal catheter with the long prostatic curve should be used. All force should be scrupulously avoided and the catheter should be guided more by the sense of resistance than by anatomical knowledge. Failure to observe this rule frequently leads to the for-

mation of false passages, when the difficulties of the situation are greatly multiplied.

While prostatic retention, unless maltreated with instruments, is usually easily relieved, yet after false passages have once been made, it is often impossible for the most skillful hand to find the natural way into the bladder with any catheter.

In such cases an immediate cystotomy should be performed. Usually the suprapubic will be the most advantageous. The method of aspirating the bladder above the pubes, with a large trochar, through which is passed a soft rubber catheter, which is left in situ, should be mentioned only to be condemned. A cystotomy requires but a little more time, entails no more shock, and avoids the dangers of extravasation of urine, and consequent infection, which the aspiration method alluded to almost certainly invites.

The treatment of prostatic hypertrophy by surgical means is positively indicated then:

1. In any patient whose social status is such as to render unsafe the use of the catheter;
2. Whenever at any time the use of the catheter fails to relieve the distress;
3. Whenever the distortion of the prostatic urethra renders the passage of the catheter difficult or painful;
4. Just as soon as infection of the urinary tract becomes evident;
5. Whenever the prostatic tumor interferes with defecation;
6. For the relief of painful, continuous priapisms in the aged, with perineal irritation, with or without emissions;
7. Finally, it should be the method of choice whenever the patient is in a position to stand operative procedure and the local and general conditions are favorable. The operation should not be looked upon or used as a last resort.

At the present time three distinct lines of attack upon the hypertrophied prostate are most in evidence before the surgical world. Each one enthusiastically supported by its adherents; and from them the choice of operation must be made. They are the Bottini operation, suprapubic prostatectomy, and the perineal prostatectomy.

The Bottini operation consists in the cauterizing of the projecting lobes of the gland with an electrically heated cautery, passed through the urethra. This operation was devised as long ago as 1874, but it did not come prominently before the profession until 1897, when, with the decline of the craze over castration and vasectomy, it was taken up enthusiastically by a number of operators in this country and in France. But its defects have been shown to be so numerous that its use is now declining rapidly. The principal defects of this operation are: (1) The necessity of doing the operation in the dark. (2) Liability of perforating the bladder wall. (3) Large percentage of sepsis following the operation. (4) Uncertainty of final results. (5) Excessive mortality. Finally, the introduction of spinal anesthesia in perineal prostatectomy has robbed it of its greatest advantage, i. e., that it was the only operation that could be done without a general anesthetic.

Suprapubic prostatectomy was first definitely proposed and performed by Belfield of Chicago and McGill of Leeds, England, in 1887. In 1894 Fuller of New York performed the operation. But it did not receive much attention until 1901, when, with slight modifications, it was published and enthusiastically advocated by Freyer of London. Since then it has become the operation of choice with English surgeons, and is advocated by a few operators in this country, notably Fuller and Guiteras of New York. Recently Lilienthal and Weiner of New York report 31 suprapubic operations done under nitrous oxide anesthesia.

The operation consists in opening the bladder through the prevesical space, incising the mucous membrane over the gland just posterior to the urethral orifice. Through this opening the gland is enucleated with the finger. The fingers of the operator's left hand, in the rectum, meanwhile steady the gland and push it upward and forward. The gland is removed entire, including the whole of the prostatic urethra. The tissues about the base of the bladder fall together after the operation and no sutures or gauze packing is used. The bladder is drained by syphonage through the suprapubic opening.

This operation has never been very popular in this country, nor, indeed, anywhere except in England, though excellent statistics both as to mortality and final results are reported.

The objections to this method are: (1) The severity and length of the operation. (2) The necessity of a general anesthetic. (3) Inadequate drainage. (4) The necessity of a prolonged stay in bed, which is a serious matter in aged patients, increasing as it does the liability to pulmonary complications and uremia, these, indeed, being the principal causes of mortality following this operation. And (5) the frequency of permanent suprapubic fistula. This operation is peculiarly adaptable in those cases that have suffered from complete retention, in which a catheter could not be passed, and a suprapubic cystotomy has had to be performed to empty the bladder. The prostatectomy can be done through the same opening.

Of the operation of perineal prostatectomy, as it is performed at the present time, there are two varieties. The one which entails a more

or less extended dissection of the perineum, aiming to bring each step of the operation within the view of the operator. The other consisting of a simple median perineal incision, followed by an enucleation of the gland with the index finger.

The first type represents in a general way the operations performed by Murphy, Lydston, Symms, Pilcher, and Young. Probably the best of these operations is the one performed by Young of Baltimore. It is really a modification of an operation originated by Albaran of France in 1901. The steps of this operation are as follows: An inverted V-shaped incision is made through the skin and subcutaneous tissues just above the anal margin. The operation then proceeds by blunt dissection until the central tendon of the perineum and the recto-urethralis muscle are reached. These are divided. This allows the rectum to fall and exposes the membranous urethra and the posterior surface of the prostate. The membranous urethra is divided on a grooved staff. Young's special prostatic tractor is inserted into the bladder, opened, and with it the prostate is drawn down to the external wound. The rectum is held back by a retractor. Two parallel incisions are then made on the posterior surface of the gland, leaving the median ejaculatory portion between them. The object of this is to preserve the ejaculatory ducts and so conserve the sexual powers of the patient. Each lateral lobe of the gland is enucleated through its incision, and afterward the median lobe can be forced into one or the other lateral cavity and removed. The bladder is drained through the perineum, and the cavities in the gland are lightly packed with gauze. The bladder is not opened directly.

The advantages that Young claims for this operation are: (1) That the entire operation is done under the eye of the surgeon. (2) That it is conservative, no structures are unnecessarily destroyed, and particularly that the ejaculatory ducts are preserved, and, therefore, a greater percentage of his patients retain sexual power than is the case with other operations. (3) The low mortality. Young reports recently 75 cases with no deaths directly attributable to the operation, but with four deaths following: two from uremia, one from pulmonary embolus and one from pneumonia.

The objections to this operation are: (1) Length of time required to perform it. (2) The extensive perineal wound which requires a comparatively long time to heal, and (3) the danger of wounding the rectum. This last is a very real objection. Young himself reports four such accidents in his first series of fifty cases. Personally I have had no experience with this operation, but I have seen both Young and Murphy operate, and the danger of the retractor perforating the thin wall of the rectum seemed very imminent to me.

The operations performed by Murphy, Lydston, Bryson, and Symms are essentially similar. Each one of these operators has devised a special tractor with which he pulls down the prostate. Murphy makes a very extended dissection of the perineum, beginning with an inverted "Y" incision through the skin, which he afterwards closes with sutures. Symms, on the other hand, makes only a moderate median incision. None of these operators make any special attempt to preserve the ejaculatory ducts.

Prostatectomy through the median perineal incision, consists of the rapid finger enucleation of the gland, done through the lateral walls of the prostatic urethra, by the forefinger tip introduced through an ordinary external perineal urethrotomy incision. This operation was the first method by which the total removal of the prostate was definitely attempted. It was practiced and advocated by Gouley as long ago as 1873. But his work does not seem to have become generally known to surgeons. Since that time a number of operators have independently adopted this method, notable among them being Goodfellow of San Francisco. He began doing this operation in 1891, and not knowing of the previous work of Gouley, considered it original with himself. To his enthusiastic advocacy of the method, and to his remarkable success with it, is to be credited the present popularity which the operation enjoys. It is the operation which is generally resorted to at the present time by a majority of the operators in this country and on the continent of Europe. Probably 95 per cent of all the recorded cases of prostatectomy have been done by this method.

I quote Goodfellow's own description of the operation as he performs it. "With the patient in the ordinary lithotomy position, the legs held by assistants, the bladder being empty or full, as the case may be, a lithotomy staff is introduced, the legs then elevated somewhat, a median incision from the base of the scrotum to the margin of the anus is made, and carried to the membranous urethra, which is entered with a straight lithotomy knife, and the opening extended into the bladder. The finger is then introduced into the bladder, the staff removed, and the moderate flexion of the legs and thighs on the abdomen and the thorax, increased to as great an extent as possible; then with the opposing hand over the hypogastrium, the bladder is depressed, and the enucleation, beginning at the beak of the prostate below and working upward next to the bladder, or, from above on either side downward, is carried on, the time consumed for complete enucleation rarely being

over five or ten minutes, the resulting hemorrhage being virtually nothing. The gland may be removed entirely or lobe by lobe. If the bladder has been full of pus sometimes it is washed out. No drainage of any kind by gauze, tube, or catheter is made, the perineal incision sufficing. In my earlier cases the practice was to pass a straight sound through the perineal wound into the bladder every other day for a week or more to keep free drainage, and in any complicated cases such course might still be adopted, but of late it has not been found needful. In all recent cases no instrumentation of any kind has been permitted, neither irrigation (except at time of operation), passage of sounds nor catheters; and all have done as well or better than under the older process. The patients are allowed to get up as soon as they feel like so doing, and the urethra is generally closed within eighteen to twenty-four days. Frequently some urine passes naturally within forty-eight to seventy-two hours, the quantity increases as the wound closes, until all is voided by the urethra. What becomes of the prostatic urethra, has been asked. The answer is that part or all has been removed with the gland, an incident that in no manner seems to affect the restoration or continuity of the urethra; or the power of the bladder to retain and control its functions, nor is stricture or occlusion caused. The seminal ducts are not ligated, for this seems to me an irrational refinement, especially as many of my patients have (so they say), to a greater or less extent, regained sexual vigor.

"The points to be especially emphasized are the position and the incision into the bladder. Upon these, in my opinion, rests the unvarying success.

"The former gives access to the gland and bladder, while the latter permits rapid ablation of the gland, also the viscus to be thoroughly explored with the finger, or through the speculum, as could be the vagina in like position; and obviously, of equal importance, complete drainage is established with less traumatism than in other methods. In none of my operations have retractors, speculums or other instruments been required, to enable me to remove the gland, the finger serving all needs. I do not find it necessary now to use the knife to enter the urethra and bladder. After cutting to the urethra I am able with the finger to open the urethra and get into the bladder by a boring movement. Then, not having to cut through the commissure, I enucleate from above instead of from below as formerly. The method, however, is immaterial, although with the more recent plan a much smaller incision is made, one which will admit only the index finger."

The advantages of this operation are (1), the rapidity with which it can be done, and as a consequence (2), a minimum amount of shock, which allows the operation being performed on patients in the most desperate physical straits; (3), the rapidity of convalescence, patients being out of bed as early as the second day; (4), rapid closure of the perineal fistula and resumption of bladder control, and, (5), the uniformly good ultimate results.

The objections that have been raised by advocates of other methods are (1), that the successive steps of the operation cannot be seen, practically all of the work having to be done in the dark; (2), that it entails an unnecessary amount of mutilation of the prostatic urethra; (3), that the ejaculatory ducts are destroyed, and, therefore, the patient's sexual powers permanently lost.

The criticism with regard to the blindness of finger enucleation does not seem to me to hold good, at least as a general statement. That it is true for certain individuals may be the case, but it seems to me that for those who have practiced the method, the sense of touch is more accurate, delicate, and a safer guide, than that of sight in the performance of this operation. Indeed, it has seemed to me, from witnessing Dr. Young and Dr. Murphy operate, that the ability to see the steps of the operation has been more theoretical than real, from the fact that the field of operation is always flooded with blood, and because only the lower part of the gland is pulled down sufficiently far to come into view.

Objection to the extensive destruction of the prostatic urethra also seems to me more fanciful than real. The results of such men as Goodfellow, Watson, Bryson and Horwitz all show that the mucous lining of the prostatic urethra rapidly proliferates after any injury. Indeed, the recent work of Freyer and Moynahan, with suprapubic prostatectomy, in which the whole gland is purposely removed, including the entire prostatic urethra, shows that the whole tract is re-established with good functional results.

The objection that is most strenuously urged against this operation by certain surgeons, notably Young of Baltimore, is that the ejaculatory ducts are invariably destroyed and the patient's sexual powers permanently abolished. That this is not the inevitable result is shown clearly by Watson in a recent article in which he portrays and describes a specimen removed post mortem shortly after this operation had been performed. In this specimen he clearly shows the presence of the ejaculatory ducts intact, although no especial pains had been taken during the operation to preserve them.

Statistics on this point are quite as good for this operation as any that Young and his fol-

lowers report. Indeed, Goodfellow's are better. He reports that he has questioned every one of his patients after operation, and they all stated that they had sexual power. But replies of patients to questions on this point must always be notoriously unreliable and little dependence can be placed on any of these reports. This whole question seems to me to be a fanciful and unimportant one. The vast majority of prostatics as they come to the surgeon at the present time, are in such a condition that they have long since lost all sexual power and appetite. And it is manifestly absurd to expect any prostatic operation to rejuvenate these old men. In the future, when the laity have been impressed with the advantages of early operation for prostatic trouble, I fancy that it will be found that the operation does not materially affect the sexual powers.

On this point Horwitz says:

"We believe that those who affirm that they can resect the prostate gland by any known method without injury to the ejaculatory ducts should be classified as well meaning but misguided enthusiasts. It is well known that the course pursued by the ejaculatory ducts in the normal prostate gland is by no means uniform; varying very considerably in different specimens. Hence no definite rule can be given to the surgeon, which will serve as a guide to prevent his injuring those organs during operation. When the gland is distorted by hypertrophy it will be observed that in most instances the position of the ducts deviates very materially from the normal position, so that it is impossible to locate them, consequently injury to these structures is bound to occur when the organ is enucleated.

"It is believed that impotence following prostatectomy is not caused by either wounding or resecting the ejaculatory ducts; but that it is due to the injury inflicted on the glandular structure of the prostate, thereby destroying its intimate relations with the entire nervous system.

"When we reflect that the prostate gland is supplied by large nerves derived from the hypogastric plexus of the sympathetic, the sacral plexus of the spinal nerves, and through the lumbosacral trunk with the lumbar plexus, the conclusion is readily reached that the organ is in intimate connection not only with the component parts of the genitalia, but through the agency of the free interchange of fibres between the sympathetic and the cerebro-spinal system of nerves, with remote parts as well. It is easy to comprehend how the severing of the connection of such an important nervous mechanism could easily result in sexual debility."

Statistics of the operators who do the perineal prostatectomy through a small median incision show by far the best results. Indeed, Goodfellow's statistics give the best results that up to the present time have been reported by anyone. He reports 78 operations with two deaths, one from sepsis and one from shock, no cases of permanent urethral fistula, no case of permanent incontinence, or loss of bladder control, and a good functional result in every case.

One of the greatest advances that has been recently made in the treatment of prostatics has been the introduction of spinal anesthesia. By this means patients very infirm, septic, and suffering with advanced renal disease, on whom ether or chloroform would be fatal, can now be successfully operated on. The method used is the one devised by Morton of San Francisco, which Goodfellow recommends, and which has been so successful in his hands. Four-tenths of a grain of dry sterile cocaine is allowed to dissolve in the spinal fluid, which has been drawn into the barrel of a Luer syringe, and then reinjected into the spinal canal. There are none of the unpleasant sequelæ which follow the injection of an aqueous solution into the canal.

Sometimes there is a slight nausea and vomiting on the table, but this is all, and the anesthesia is perfect, lasting an hour and even longer. Through spinal anesthesia perineal prostatectomy has been made a much safer procedure, and the Bottini operation has been robbed of the strongest argument in its favor, viz., that it alone could be done without a general anesthetic.

My personal experience with the surgical treatment of prostatic hypertrophy embraces five cases, which I desire to take this occasion to report.

The first case I operated on before I had become acquainted with the technic of the median perineal operation. The patient was a man 70 years of age, who had been confined to his bed for six months. His entire urinary tract was septic to the last degree. The power of voluntary micturition had been lost a year before. He suffered from constant tenesmus and bladder hemorrhage. He had had a catheter continuously in his bladder for two months.

Prostatectomy was done by the combined method. The suprapubic method was attempted but failed, when an additional incision was made in the perineum. The patient died on the fourth day of uremia.

The four subsequent cases were all operated on by the method described by Goodfellow. Their ages were respectively 74, 70, 68, and 59. All were of long standing and had septic bladders. The two oldest cases (74 and 70) were in a wretched physical condition. All recovered.

The longest time consumed by the operation was 18 minutes and the shortest ten. One was given ether and in the other three spinal anesthesia was used. All are living at the present time and have good control over their bladders. Urine can be held for from four to eight hours. In one case a perineal fistula persisted for eleven months, then closed spontaneously. In the other cases the perineal wounds closed rapidly. As to their sexual powers, one reports no erections and no coitus. Two report presence of erections and successful coitus. And one reports presence of erections, coitus has not been attempted. Conclusions:

1. The perineal route, by means of the median perineal incision, gives the best ultimate results.

2. It is accomplished with less danger than the suprapubic, Bottini, or the more elaborate perineal operations, as regards shock, hemorrhage, sepsis, injury to the neighboring structures, and to life. In fleshy patients the hemorrhage is more profuse, repair slower, and the urethral fistula lasts for a longer time.

3. Drainage is excellent and favors rapid restoration of the bladder to its normal condition.

4. The period of wound repair is much shorter.

5. Vesical control is almost uniformly good.

6. Sexual power, often nil before the operation, is probably not materially affected by any method.

7. The relief of vesical irritation and consequent suffering is great, and the frequency of urination is reduced to about the normal.

8. The operation should be the treatment of choice where the patient is in a condition to stand operative procedure, and the local and the general conditions are favorable. It should not be considered or used as a last resort.

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DISCUSSION

Dr. Viko: I was much pleased in listening to the reading of Dr. Jones' paper. There is one thing in which I differ from the author, and that is in the selection of the more preferable operation. I believe in the Young operation, as there is less injury or trauma done to the bladder and adjacent structures. After the incision, as made by Young, the rest of the operation is accomplished practically by a blunt dissection, and Young uses a retractor in the bladder, the organ being thereby protected from the injury that it would otherwise sustain by rough handling.

In regard to the suprapubic operation. There is danger in this, I believe, on account of getting very poor drainage. If there is a good deal of bleeding into the bladder and clots form, you can remove them, but not very well through the suprapubic route, and I believe that infection is likely to take place sooner or later. In my mind Young's operation is the best that has so far been designed, as there is less injury of tissue, and it is decidedly less bloody than the Goodfellow operation. Goodfellow tears a hole in the base of the bladder, while in Young's operation the bladder is safe from injury.

Dr. Behle: I believe that I have discussed this matter before with Dr. Jones, and while I do the operation advocated by Goodfellow, I combine some of the essential qualities of each of the respective operations, and I might designate it as a combination of Young's, Zukerkandle's, and Goodfellow's. The incision as advocated by Zukerkandle is a curved one, and the advantage that it possesses over others is that it can be enlarged or extended so as to allow of room when required, and it can be continued down on both sides of the rectum, and there is no reason why use should not be made of this method when it is required. It seems impossible with a similar incision to undertake to remove a gland weighing as much as four ounces. There are also other and better instruments in the way of tractors than that used in Young's operation, which seems to tear through on account of its beak. I use the curved incision, with the concavity extending downward. The size of it depends upon the condition of the prostate which I may find, and when I reach the capsule of the prostate I use the ordinary cat's-claw retractor. I simply grasp the gland, split the capsule, get the finger in between the gland and the capsule, and enucleate it. If you stick to the outside of the gland you will get but little hemorrhage, as it is more likely to spring from the region of the urethra. The gland is pulled down and split over the lateral lobe. You enucleate one lobe and then the other. I control hemorrhage with hot water. An important point is to get the patient out of bed, rather than keep him in bed too long. I am

in the habit of using the ordinary antiseptics, and I find urotropin very useful, more so than boric acid or salol.

Dr. Morton: I have listened with much interest to this paper, as the doctor has discussed the matter so fully as to include all that we know about the operations and other procedures that have been in use, and has carried it up to date; and the literature he has so carefully reviewed makes it all the more interesting to us. He did not say much in regard to the diagnosis of this condition, but these cases are, as a rule, easily diagnosed, both from the history of the case as well as from the examinations.

There is one point I would like to consider for a moment, and that is as to what we are able to learn by palpation. If this is properly done, you can outline the prostate gland exactly, and upon this I always rely in making a diagnosis. I recently had a case sent me, and it was sent for operation. The patient was an old man, and had experienced trouble for ten years or so, and it was constantly growing worse and more and more troublesome. I passed my finger into the rectum and found an ordinary-sized prostate. A closer examination showed that all we had to deal with was a stricture, and although this is a very simple thing, it had been overlooked, because there was no adequate examination made of the urethra or the rectum.

As to the treatment. When the patient passes to catheter life, when the catheter becomes indispensable, that is the time to operate. There are a great number of physicians and surgeons who think that when a man reaches that state, and gets to that age, to give him a catheter and tell him to follow out certain instructions as to the minor details of cleanliness, and to use a catheter, is about all that is required. Now, I believe that it is a dangerous thing to give a man a catheter and a little knowledge, for the simple reason that he is not able to carry out the principles of asepsis; and I do not care how you try to educate him, he will soon become negligent and infection will follow; and when once established it soon travels up to the kidneys. It is in these cases that you have such a large fatality. Now, it does not matter which one of the three operations you use, but I do not think it is ever wise to allow a man to remain a slave to catheter life. In selecting any one of the three perineal incisions, I think the doctor's remarks and conclusions are very sound. I have used the Bottini method in a great number of cases, and the results in the great majority of cases were happy ones, but there have been so many cases of sepsis reported that it has fallen somewhat into doubt. I think his conclusions that the practice is being discarded, are true; but there are statistics to show that the Bottini operation is followed by very little mortality, ranging from 4 to 10 per cent, and the statistics as to prostatectomies are about the same, I believe, possibly a little less, but statistics vary, and they are often selected, and there is much disparity in the reports from different sources. The doctor perhaps reports the better ones, and you might be led to infer that the operations mentioned are very simple ones; but I want to say that none of these operations are so very simple to the patient, and if the patient you are dealing with is an old man, which is commonly the case, you will find him in a weak and debilitated condition, and with this state of adynamia, you will possibly have atheroma of the vessels, crippled kidneys, and all conditions that are associated with a lowered state of vitality in general; consequently none of these operations are to be regarded as simple procedures.

The method that I usually follow is that of Dr. Goodfellow of San Francisco, which I consider a most excellent operation, but we all practice essentially the same thing, and the only difference between the Goodfellow operation and the Young operation is that one uses his retractor through the urethra and the other uses his finger to bring the prostate out. The operation of Zukerkandle, which Dr. Behle referred to, is practically what Murphy follows, and he also uses the cat's-paw retractor. Whichever one of these operations you employ, you will produce about the same amount of trauma to the parts, and in all of them there is bound to be considerable trauma. I do not believe there is much trouble resulting from the tearing away of the urethra; but the least amount of trauma inflicted the better. In Young's operation he opens the urethra to insert the prostate retractor to put it through, and Goodfellow opens it on a lithotomy staff, and enucleates the prostate from the urethra through the incision. There often seems to be an undue amount of cutting, which can be done away with, and in my early work in this line I pushed the prostate down and made an incision in the median line to the prostate, but not upon the urethra. After you get to the prostate all that is necessary to do is to support the septum between the prostate and the bladder and the rectum, so as not to injure the rectum, and then you can push the prostate out in good view. The only advantage in the use of the segregator I have is that it is about the size of an American No. 18 sound, and has the general appearance of an ordinary sound, which is passed into the bladder and separates. I use this to press the prostate down, and to act as a guide to the illumination of the urethra so as to avoid cutting the urethra. I have tried to enucleate the prostate so as to save the vesicles, but I do not know that I have accomplished much in this direction, and I believe it is quite immaterial whether you protect them or not. The essential thing to remember is to produce as little trauma as possible, and it is by using these instruments that I am able to preserve the urethra.

Sometimes there are very severe complications. I have found severe hemorrhage occasionally, and for that reason I have always packed the region of the prostate thoroughly, by rolling up a piece of gauze and placing it in position. At first I tried the catheter and drain, but I found very serious inconvenience, and there is danger of fistula in it; but now I leave a drain for 24 hours, and then remove it. Then I give as much water as the patient desires to drink, and get him out of bed as soon as possible.

Out of all the cases I have operated upon, I remember one case of fistula that lasted about twelve months. I finally determined that this was due to a very small piece of gauze, and as soon as that was removed he made a complete and prompt recovery. In another case I recall there was inability on the part of the bladder to retain the urine. There was a constant dribbling, which lasted many months. He was obliged to use a rubber urinal to hold the urine. I believe this was a result of injuring the muscular tissue around the neck of the bladder. If too much force is made with the finger in tearing out the prostate, it is more likely to occur. If you are dealing with a very large prostate and the muscles around the neck of the bladder, and there is more or less intimate union, this may occur. With the exception of two, all my cases have made good recovery. One that died resulted fom embolism and the other from uremia.

In regard to the preference in the way of an anesthetic, I have always used cocaine by medullary narcosis, as the doctor described in his paper, and I believe that this is the ideal method, especially when the operation is to be performed on old people, and it is particularly adapted to prostatic work in general.

Dr. E. O. Jones: I have very little to say in conclusion. In regard to what Dr. Viko had to say in

the way of objections raised to the median perineal operation and the unnecessary degree of traumatism that results, as I said, that objection is very material. The amount of injury done by the finger does not show up in final results.

In regard to the larger incisions that Dr. Behle spoke about, I must say that my own experience and observation of other operations in which this was done, has very much prejudiced me against it. I do not like the results. I made no mention of various other operations as I considered them only slightly different from the ones mentioned, and so did not think it worth while to enumerate them. The transverse incision is perhaps 2,000 years old, and is in no way original.

I am glad that this paper has been the means of bringing the views of Dr. Morton before this association, and I feel that this is ample recompense for its preparation. I personally feel that I have been very much instructed by listening to his discussion of it, especially as regards the diagnosis. I did not enter this field, for it was not contemplated in the title of the article; however, I should have said that I rely mainly on the rectal examination in making a diagnosis. Furthermore, I find that the use of the cystoscope in these cases is a bad practice.

TUBERCULAR CYST OF THE MESENTERY, WITH REPORT OF CASE*

By A. E. Spalding, M D.,

LUVERNE, MINN.

Cysts of the mesentery are comparatively rare as I should infer from my inability to find but little literature on the subject in books at my command. Much, however, is written on tubercular peritonitis; in fact the symptoms are very much the same, and the condition is identical save its localization. Huntington Richards, in the "Reference Hand-Book," under the head of abdominal tumors, includes cysts of the mesentery, but says that they are so rare that they need no consideration, and, in fact, are seldom diagnosed except by the aid of an exploratory laparotomy. Warren and Gould say: "Cysts of the mesentery are of rare occurence, but nearly one hundred cases have been reported. They are generally movable, and on this account are apt to be diagnosed as ovarian cysts." Osler says that a striking peculiarity of tuberculous peritonitis is the frequency with which either the condition simulates or is associated with tumor, and that the effusion may be limited and confined by adhesions between the coils of the intestines, the parietal peritoneum, the mesentery, and the abdominal or pelvic organs. Under the head of cysts of the mesentery, he says that they occur at any portion of the mesentery, and range from a few inches in diameter to large masses occupying the whole abdomen, and that the diagnosis is extremely uncertain, and no sign is in any way distinctive.

An extensive and valuable article on "Surgical Tuberculosis of the Abdominal Cavity" by W. J. Mayo, appeared in one of the April numbers of the Journal of the A. M. A. He says that "Tuberculous peritonitis has its origin in a local focus in practically every case, the Fallopian tubes and the appendix being more often the seat of the disease."

*Read before the Southwestern Minnesota Medical Society, June 27, 1903.

CASE

The case I wish to report occurred in the five-year-old son of J. J——. Martin Township, Rock County, Minn. No tubercular history could be elicited from his father. He claimed that at the age of three months he noticed that the child's abdomen was larger than that of any of the other six children in the family. The growth was slow, and until a few months before I saw the child no attention had been paid to it. The child becoming fretful, they took him to Dr. Froshaug, of Hills, who immediately sent for me to see the case. This was on October 11, 1904. He presented a picture I shall never forget; pale, emaciated, weak, tottering as he walked, whining almost constantly, a rapid, shallow respiration, and a frequent desire to defecate, accompanied with the passage of small mucous stools. His abdomen was greatly distended, and his appearance not unlike that of an old, emaciated woman with a neglected ovarian tumor. How such a case could have been allowed to go on to such an extreme and unpromising condition, I am unable to comprehend. Operation was advised, and the child was immediately brought to Luverne. He was placed on the operating-table in a sitting posture, and ether was administered while in that position, as he was unable to lie down owing to the great dyspnea produced by the pressure on the diaphragm. As soon as he lost consciousness he was placed in the recumbent position, and an incision made in the median line between the umbilicus and the pubes. The incision was a perpendicular one, as the abdominal wall extended in a vertical line from the pubes.

I must admit that I thought I was dealing with a case of tubercular peritonitis, and expected to see the fluid gush out as soon as the peritoneum was opened, but this did not occur. A shiny cyst appeared, which I surrounded with gauze, grasped the sack with forceps, punctured, and let out two gallons of dark straw-colored fluid. Large veins coursed over the exterior surface of the cyst, while the interior was completely studded with the characteristic rice bodies.

After drawing the greater part of the cyst out of the abdominal cavity, its connection with the mesentry was easily discerned; and the question then confronted me as to what disposition should be made of the cyst. There was no small pedicle to ligate, but a broad flat sack, with rice bodies at what might be termed its base, many of which would necessarily be left behind. Again, to ligate might mean the cutting off of the blood supply to the intestine, and consequent death of that part. I proceeded therefore as follows: the cyst was evenly drawn out and stitched to the peritoneum with catgut sutures, using sufficient force in tying to stop all hemorrhage. The sack was excised half an inch from the abdominal wall, and the inside was then packed with iodoform gauze, and a large dressing applied.

The outcome of this case was all that could be desired. The child began immediately to gain in flesh and strength and is today the picture of health.

HOSPITAL BULLETIN

ST. BARNABAS HOSPITAL

MINNEAPOLIS

CONGENITAL MALFORMATION OF THE ANUS (ATRESIA ANI)

IN THE SERVICE OF DR. W. E. ROCHFORD

Elsie H——, one year old. Entered the hospital September 8th, and was discharged October 2nd.

FAMILY HISTORY.—Father, 50 years old; mother 26, Scandinavian. Mother had two children by a former husband, one still-born, the other now three and a half years old. Both children were physically perfect. The father had also been married before, and had children by first wife, all normal. Elsie is the only child of the present union.

PATIENT'S CONDITION.—The rectum opened into the vagina just inside the vulva. The opening was very small, admitting only a No. 16 F. urethral sound, and could not be seen unless feces were being forced out. The edges of the opening were encircled by a thin ring of quite tough inelastic tissue. The mother gave the child castor oil every day to keep bowel movements soft. Sometimes the bowels moved eight and ten times during the day, but always caused the child to cry with pain, and most frequently to double up and turn blue in the face and sometimes to go into spasms, the whole body being in a tremor. The baby was artifically fed. The general nutrition of child appeared fairly good.

At the time of operation, when I first saw the child, a slight, non-pigmented depression (not a cloaca) could be felt where the natural anal opening should be. The intervening septum felt dense, and the operation showed it to be about 1 inch thick. A deep perineal incision in



Fig. 1. Before Operation.



Fig. 2. After Operation.

the median line, extending from and through the vulva to near the coccyx, was made. Then the edges of the rectum opening in the vagina were carefully dissected free from the surrounding attachments, and with one finger, which I could now introduce into the rectum, the dissection, or freeing of gut, was cautiously continued, great care and patience being necessary in separating the bowel from the thin wall of mucus membrane, or posterior column of the vagina. In this way about three inches of bowel was freed. The loosened rectum was then pulled backward to its normal anal position, and transplanted between the separated muscular fibers of the external sphincter, which had been divided in the middle in the median incision. The rectum was then fastened to the skin by silk sutures passing through all coats of the bowel except the mucous. The perineum (about ¾ of an inch in extent) was then repaired with silk-worm sutures, and lastly the vaginal floor with fine silk.

The operation lasted nearly one hour. Enough chloroform to keep the child quiet was given. There was quite a little hemorrhage; shock was considerable; and the baby kept the nurse busy the first twenty-four hours. The temperature chart on the second day showed 101°, (axilla). The bowel discharges were kept carefully removed and the wound kept clean and dusted with a little powder, subiodide of bismuth.

The child gave little trouble after the first few days. The wound healed without infection, and at the end of three weeks the patient was discharged from the hospital with a very satisfactory result.

There is reason to believe in this case that the sphincter muscle will develop, and perform its normal function.

The photographs show, in a manner, the child immediately before, and three weeks after, operation. In Fig. 29, p. 85, Vol. 5, of Von Bergman's Surgery is found a good diagram which illustrates this case. The infrequency of this condition and the meagre literature to be found in our American works on surgery, make the report of each case interesting.

A CASE OF ASCITES DIAGNOSED OVARIAN CYST.

In the Service of Dr. G. C. Barton

Mrs. W——, aged 24, was sent to me by Dr. G. Murphy, New Rockford, N. D. Her complaint was enormous distension of the abdomen. She was extremely fat, her usual weight being 260 pounds.

She gave a history of having noticed, some two years before, a fulness in the lower right quadrant of the abdomen. This had been gradually increasing until the time she presented herself at my office, when the distension of the entire abdomen was so great as to seriously interfere with respiration, and to cause her in general marked discomfort. Her weight had increased 20 pounds of late, although she was quite certain that she had lost flesh.

On examination every indication of ovarian cyst was present. The fluid did not change its position with a change of posture. There was dulness all over the abdomen, with some tympany in the flanks, particularly in the right, and slight tympany in the epigastrium. The vaginal examination was unsatisfactory, owing to the pressure of fluid in the pelvis.

The patient was sent to the hospital for operation. The incision was as short as possible. An enormous quantity of clear fluid escaped, and it was evident that the condition was that of ascites. The liver was found to be enlarged, its thickened nodular border extending down to the umbilicus. The surface was nodular; the nodules were for the most part small, the largest being about the size of a filbert. There were numerous adhesions about the intestines and omentum. The peritoneum was redder than normal but it seemed possible that this might be due to the sudden filling of the vessels after the tension from the fluid was relieved. No tubercles could be found although a very thorough search was made. The tubes and ovaries were normal. With the exception of a rise of temperature her convalescence was wholly satisfactory. Throughout her three weeks' stay at the hospital, her temperature rose about one degree every afternoon, sinking often to subnormal in the morning. This naturally was very suggestive of tuberculosis. The liver, however, had resembled so strongly a syphilitic one, it was decided to administer potassium iodid. The result was an immediate improvement.

The interest of this case, of course, centers about the diagnosis. Not only did the extreme obesity of the patient and the enormous quantity of fluid present, make all examinations unusually difficult, but in this instance the physical signs most commonly depended upon, pointed to ovarian cyst.

A CASE OF TORSION OF THE TESTICLE

In the Service of Dr. G. G. Eitel

Mr. M—— came to the hospital Sept. 23d. His family history stated that one brother and one sister had died from cancer. Otherwise it contained nothing of interest.

Personal History.—The patient is 58 years of age. He is a farmer, of German descent, and for the last 18 years he has been a widower. While in his teens he suffered severely from epistaxis. He states that other members of his family suffered in the same way.

He has had a right inguinal hernia for the last 16 years. For the past two years he has noticed a dragging sensation in the left groin, together with pain in the corresponding testicle. This pain became more marked upon lying down.

On Sept. 15th he received a severe jolting in jumping from a wagon while the horses were on the run. That evening he felt far from well. In the morning he was unable to get up. The scrotum was much enlarged and was the seat of dragging sensation. There was no vomiting. After a few days he got up but the pain and swelling had increased. It continued to increase until the 21st when he applied cold applications. Up to this time the mass had felt soft on palpation, but now it became tense. It remained in this condition until he was operated upon.

At the time he entered the hospital he was suffering very little discomfort. He was somewhat constipated, and for the past two days had had a little difficulty in micturition.

On examination the left testicle was found to be enlarged, measuring 11x8 cm., the long axis maintaining its normal position. The testicle was very hard. Posteriorily the epididymis could be palpated. No fluctuation was obtainable.

Urinalysis showed a specific gravity of 1027, a trace of albumin and a few finely granular casts.

Operation.—On Sept. 26th he was operated upon for inguinal hernia on the right side. The tissue in the inguinal region was atrophic and pigmented. On the left side the scrotum was enlarged, 10x16 cm. The skin over the tumor was not tense, and was freely movable. The vessels in the cord above the tumor were distended. The testicle and epididymis were not palpable. There was some fluctuation. A diagnosis of cyst, probably varicocele, was made.

On cutting in and puncturing the tunica a bloody fluid escaped. The tumor mass was removed, including a portion of the scrotum. The vessels and cord were ligated near the external ring.

Pathological Report.—On section of the tumor mass, which is in a collapsed state, the tunica is found to be fibrous and much thickened. In the sac is a dark hemorrhagic fluid. The testicle and epididymis appear tense and somewhat enlarged, and dark-blue in color. The epididymis is cystic, and on section a hemorrhagic fluid escapes. The cut surfaces of the tense testis bulge, and are dark-brown in color, and are almost diffluent in consistency. From the larger to the lesser pole of the epididymis it is seen that the epididymis is twisted nautilus-like on the testicle, and that the apex of this ends in a fibrous cord which communicates with the vessels and cord of the upper portion of the tumor mass. For 2 cm. the cord is a hopeless tangle of fibrous tissue, with here and there a slightly patent vessel. Above this the vessel and cord appear normal. On unwinding the spiral-like twist of the epididymis on the testicle, it is found that the two organs and fibrous mass above had been turned one and a half times on their axis.

Diagnosis.—Torsion of cord and epididymis, with degeneration of cord and vessels. There was atrophy of the two organs, the testicle and epididymis, which were in the last stages of a very old congestion.

When scissors become "catchy" their edges can often be surprisingly smoothed by carrying each blade repeatedly from lock to tip between the firmly pressing thumb and forefinger. Each kind and size of scissors has its own capacity, and should be used only for what it is intended. Opthalmic instruments are not intended for ordinary dissections, tissue scissors should not be used for cutting bandages, nor bandage scissors for plaster of Paris. —American Journal of Surgery.

NORTHWESTERN LANCET

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A FOREWORD

The Lancet has been made the journal of the Minnesota State Medical Association. Beginning with the next issue its name will be changed to show the fact, and a full statement of our plans will then be given. The journal will be sent to every member of the Association, the subscription price being paid out of the treasury.

TRANSACTIONS OF THE UTAH STATE MEDICAL ASSOCIATION

Two years ago The Lancet was selected by the Utah State Medical Association as the medium through which to publish its transactions, and as the association meets in May, we had hoped to furnish the publication early in the autumn, but this year the stenographer was slow in getting his report into our hands, and the result has been that our pages have been crowded with these papers. We give the last of the papers, except one short one, in this issue.

The discussions of these papers emphasize a very important lesson which has been learned only in part by the members of the Minnesota Association. The lesson is that no man can do himself justice when he speaks off-hand and without preparation. It seems to be an almost invariable rule that those who discuss papers speak too long and ramble too much. A poor paper that draws out a good discussion is often better, more helpful, than a good paper that brings out none. A good paper that draws out a free and full discussion, in which men give their experience, their failures and their success, is worth while. One such paper at a county or state meeting furnishes ample reason for a man's attendance upon that meeting, while the absence of such papers, accounts, in a large measure, for the small attendance upon medical meetings.

Let us have, in all of our meetings, more brief, pithy, meaty discussion, which has been well thought out in advance, and there will no longer be complaint of lack of interest or of small attendance.

We shall begin in our next issue the publication of the Minnesota transactions, and we hope to find in the discussions a marked exception to the rule above stated.

ANONYMOUS PATENT MEDICINE PROMOTERS

An editorial on alcohol in patent medicines in The Lancet for Oct 1st. evidently interested some one in Columbus, Ohio, and this "some one" is undoubtedly a manufacturer of patent medicine containing alcohol. He wrote an unsigned typewritten letter asking for fair treatment, and encloses in the envelope a circular showing the percentages of alcohol in the tincture and drug compounds of the dispensatory of the U. S. P.

The list is more or less accurate, but the circular, judging from the spelling, is compiled or copied by some one unfamiliar with drugs. For the sake of argument the percentages are accepted as correct. As an illustation, with the spelling copied fom the circular, we are told that tincture of asafetida, sweet orange peel, ferric chloride, guaiac, fresh herbs, myrrh, tolu and ginger, and liquid extract cimicifuga and cubebs, each contains 94 per cent of alcohol. The doses of these various high grade tinctures and extracts

vary from a few drops to one or two teaspoonfuls.

Other tinctures and preparations contain a smaller amount of alcohol, most of them more than is found in the average patent medicines. There is a possibility that patients may become addicted to the tincture or extract habit through the frequent refilling of the physician's prescription. Such instances are deplorable, and no one would regret it more than the physician.

There is a wide difference between a known pharmaceutical preparation and a patent medicine of unknown composition. The former contains a drug of known quantity, dissolved or preserved in alcohol; the latter is made up of alcohol and a drug of unknown quantity and quality. The tincture or extract is compounded for the physician to prescribe for a specific case, and if the drug is reliable and active, certain results may be anticipated. The patent medicine is put on the market to sell to everybody, and is frequently guaranteed to cure from five to thirty-five diseases. The diagnosis is left to the patent medicine man and the too responsive patient who is ready to be cured for 67 cents or its multiple. Many drugs are recognized as unstable and inert even by the U. S. Pharmacopeia. Who is to say whether the patent medicine contains active or inert drugs?

There is no denying the benefits of suggestion, and perhaps patent medicines do some good in some cases by their persuasive testimonials and flim-flam promises, but why not educate the public in a better plane of medicine? The physician is the one to make an examination and diagnosis, as well as to suggest the remedy, and it seems unreasonable for the patent medicine to attempt either diagnosis or remedy at such a great distance from the patient.

Reputable physicians do not make rash promises to cure many of the diseases that the patent medicine man belittles into trifling and curable ills by a secret and unreliable nostrum.

Physicians will continue to prescribe tinctures and extracts, but they cannot expect that patients will swallow them as confidently or continuously as the patent medicine is absorbed. The alcohol in the chemist's tincture may be excessive, but it is chemically proportioned for the drug it contains. This rule does not hold good in the secret medicines.

The fight against patent medicines that contain an excessive amount of alcohol will continue, not only against the alcohol, but against the methods of the patent medicine advertiser. It is still safer to consult a physician than it is to rely on the promises of an unknown agent who sells an unknown compound to an unknown person who is supposed to have an unknown disease.

CLASSIFICATION AND DIAGNOSIS OF INSANITY

The text-book on insanity twenty-five years ago and the latest publications of the day show very plainly the modern trend of the psychiatrist. In the earlier publication the classifications and definitions of insanity were appalling to the student of medicine. Almost every symptom represented a type of the insane; perhaps it would be better to say that the classifications were divided and subdivided until they resembled a genealogical tree with the trunk unnamed, but with each branch labelled. To-day the trunk represents the individual, to be carefully observed as to its construction and constructive properties; the large branches represent a few important symptoms similar in appearance to the trunk itself—a part of the individual more or less changed according to environment; the smaller branches are the minor symptoms gradually fading into space.

The older writers told us of the varied types of mania each form separate and distinct and sharply defined. Today mania and melancholia are merged into one form of the disease with the same predisposing and exciting causes, but manifesting themselves by excitement or depression or they are so interlaced as to be impossible of separation. To cover the uncertainty of definition, or rather, to embrace excited and depressed states the term manio-depressive insanity has been coined. It is a name that suggests uncertainty and doubt or a name used to cover confusion in diagnosis.

Gradually, the term "circular insanity," first described by the French psychiatrist, will cover

the field so as to embrace all of the types in which excitement and depression are the predominating features. Fortunately, the simpler classification is adopted by the later writers, and the subdivisions that were formerly employed are rapidly disappearing.

What is more important, the individual is recognized rather than his chain of mental symptoms. The study of insanity can be carried to a satisfactory diagnosis only by adopting the standards of the clinician and his study of the organic structure of his patient, together with his knowledge of the histology, function, and pathology of the nervous system. This can be obtained only by anatomical and physiological analysis of disease processes and a study of the normal and abnormal minds of everyone supposed to be insane.

Psychiatry is the highest branch of internal medicine, and it is one that calls for the widest knowledge on the part of the physician. The most detailed methods of examination are demanded before a reasonable conclusion is possible. A layman may make a diagnosis of the ordinary forms of furious insanity, but it requires the closest and most experienced observer to recognize the borderland cases, and to determine the cause and diagnosticate the form of the disease in a majority of the cases.

The psychiatrist who is trained in the study of man and his inherent tendencies as applied to disease in general, is the man who should be recognized as the highest type of the internalist. Such a man is broad in his applications of the principles of medicine. Nothwithstanding the fact that the insane are relegated to the care of hospitals for their protection, as well as for the protection of the public, the study of insanity must be encouraged from every possible standpoint, in order that the public and the physician may be in sympathy for the betterment of the insane.

A higher percentage of recoveries, and the disappearance of the supposed stigma that surrounds the insane, would follow if the claims of the student of mental disease were more keenly appreciated.

NEWS ITEMS

Dr. L. O. Johnson, has moved from Granite Falls to Winthrop.

Dr. O. G. Wicherski, a graduate of Rush, has located at New Ulm.

Dr. W. V. Gulick, of Rochester, was married last month in Canada.

Dr. J. B. Muir, formerly of Hallock, has decided to locate at Roseau.

Dr. D. A. Sutton, a Rush graduate, has located permanently at Rushmore.

Dr. Lewis Little, a recent graduate of Rush, has located at Lake Wilson.

Dr. L. H. Kermott, a 1904 Hamline graduate, has located at Towner, N. D.

Twenty-nine physicians took the State Board Examinations in North Dakota last month.

Dr. Heinrick Tillisch, of Canby, was married last month to Miss Maud Stokes, of Watertown, S. D.

Work will not be begun until spring upon the building for the Lutheran Hospital at Mankato.

Dr. John Knight, who has practiced for a number of years at Sebeka, has decided to locate in Canada.

Dr. Mary E. Pittman, of Springfield, Ill., has formed a partnership with Dr. Goodfellow, of Aberdeen, S. D.

Dr. Frank C. Todd, the Minneapolis oculist, has returned from Europe where he has been doing special work.

Dr. E. E. Barrett, of Glencoe, has purchased a lot upon which he expects to erect a hospital building next spring.

Dr. W. J. Benner, who recently located at Willow Lake, S. D., was married last month to Miss Mary Peeler of Anna, Ill.

Dr. A. J. Krahn has purchased the practice of Dr. Birkelund, of Phillips, Wis. Dr. Birkelund will practice in Chicago.

Dr. C. L. Larson, of Murray Hospital, Helena, Mont., has returned from a visit of several months to Europe for special study.

Dr. John J. Catlin, of Buffalo, a State University graduate, class of '03, was married last month to Miss Edith Larkin, of Allen.

The physicians of Roberts County, S. D., have organized a hospital association, and will establish a hospital at Sisseton, in that state.

Drs. Walker and Geverman, of Worthington, have installed a well equipped .r-ray laboratory which is open to the medical men of the southern part of the state.

The names of those who failed to pass the recent State Board Examination in Montana were published in the daily papers. This seems to us a very bad practice.

Drs. McKinnon and Coulter, of Wadena, have dissolved partnership. Dr. McKinnon continues in general practice, while Dr. Coulter will devote his time to eye, ear, nose, and throat work.

Dr. J. H. Rindlaub, of Fargo, N. D., has taken his brother into the firm, which now consists of two brothers and a sister; the younger brother, the new member of the firm, has just completed a course of study in Europe.

The new hospital building at Luverne, erected by Dr. A. E. Spalding, at a cost of $10,000 was opened last month. The building is of brick 40x60 feet in size, and is thoroughly equipped for hospital purposes.

Dr. Paul Sorkness and Dr. H. A. Beaudoux of Fargo, N. D., have been appointed surgeon and oculist, respectively, of the North Dakota and Minnesota divisions of the N. P. The appointments were made upon a petition signed by 1,000 railroad men.

Dr. John M. Hoyt, of LeRoy, Iowa, has been appointed an assistant physician in the state hospital at St. Peter, succeeding Dr. C. E. Burleson.

The four doctors and one dentist of Bitkin have rented the entire floor of a new block, and will have a common waiting-room with one attendant for all.

The Chisago-Pine County Medical Society met at Pine City last month, and elected the following officers for next year: President, Dr. C. A. Anderson, Rush City; vice-president, Dr. R. L. Wiseman, Pine City; secretary, Dr. H. P. Dredge, Sandstone; treasurer, Dr. E. E. Barnum, Pine City.

St. Raphael's Hospital, one of the largest hospitals in the state, outside of the Twin Cities, was badly damaged by fire last month, the loss being estimated at $25,000. There were fifty-three patients and sixteen attendants in the hospital at the time of the fire. It was owned by the Order of St. Benedict.

D. W. Riesland, a chiropractic, was sued at Duluth last month for $10,000 for mal-practice. The charge was that the patient had been strapped to a table, and had his backbone hammered with a mallet or a man's fist, and seriously injured. Under a recent ruling of our Supreme court regular surgeons are not permitted to testify in such cases because they do not understand chiropractic, and so the plaintiff lost his case. Such a decision is a travesty on justice.

The Montana State Board of Medical Examiners issued licenses to the following physicians last month: Sidney A. Cooney, Helena; P. S. Henderlite, Joliet; E. M. Ransom, J. G. Randall, George E. Dix, Missoula; N. C. Maclafferty, Aberdeen, Wash.; James M. Gray-Beale, Belgrade; Laura Keisker, Whiting, S. D.; E. F. Maginn, Phoebe A. Ferriss, Butte; William F. Hamilton, Havre; R. P. Minnick, Saco; A. J. Mavius, Bridger; Max W. Barbour, Zortman.

The Society of Clinical Surgery, composed of some of the leading surgeons of the country, met last month, and were handsomely entertained by Drs. W. J. and C. H. Mayo. The following surgeons were present: Doctors A. D. Bevan, Chicago; J. C. Bloodgood, Baltimore; G. E. Brewer, New York; E. A. Codman, Boston; G. W. Crile, Cleveland; Harvey Cushing, Baltimore; G. G. Davis, Philadelphia; J. M. T. Finney, Baltimore; C. H. Frazier, Philadelphia; J. H. Gibbon, Philadelphia; M. L. Harris, Chicago; R. H. Harte, Philadelphia; L. W. Hotchkiss, New York; J. P. Hutchinson, Philadelphia; Robert G. LeCoute, Philadelphia; F. B. Lund, Boston; Edward Martin, Philadelphia; Rudolph Matas, New Orleans; J. G. Mumford, Boston; J. C. Munro, Boston; J. B. Murphy, Chicago; C. W. Oviatt, Oshkosh; C. A. Porter, Boston; J. Clarence Webster, Chicago; and Drs. E. Wyllys Andrews, A. E. Halstead, Ormsby, Lee, Fletcher, Hollister, Shilles and Willard Bartlett of St. Louis.

POST-GRADUATE WORK

Doctor: If you want practical post-graduate work during the fine season in the delightful city, write for particulars, to New Orleans Polyclinic, P. O. Box 797.

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THE JOURNAL
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MAMMARY CARCINOMA*

By N. L. Rodman, M. D.

PHILADELPHIA, PENN.

Permit me first to thank the commitee on program, and through them the Association, for the privilege of appearing before you to-day to deliver the address in Surgery. My gratitude to the committee is heightened by a suggestion from them as to a subject, always the first and most difficult part of a paper.

Before proceeding to discuss the question of "mammary carcinoma," it will not be far afield to consider the subject of cancer in general, especially its etiology and treatment, about which much has been written within the year, new claims having been made, and old theories, somewhat modified, revived.

Perhaps the most notable communication on the subject of cancer during the year was that of Doyen, who claimed not only that he had identified and made cultures of the germ, which he named the *micrococcus neoformans,* but that he had prepared and used successfully in a number of cases a serum which was antagonistic to the parasite and curative of the disease. His claims have been reported upon, favorably and unfavorably, by committees appointed for the purpose. The favorable report, not positive in its character but mildly so, was made by Metchinokoff, a bacteriologist of commanding rank, but not a medical man, and therefore not a practical clinician. Other reports—and they have been more relevant and to the point—are adverse in every respect to the claims of this surgeon. Attractive as the parasitic theory of cancer is, and much as there is in its support, it cannot be said that we are any nearer the goal than has been thought many times before. Possibly the strongest argument in favor of the germ theory of carcinoma is its supposed and apparently ever-increasing frequency in all countries where systematic records are kept, and that in this tendency barriers hitherto recognized, racial and geographic, are rapidly being broken down. In saying *supposed* increase, I do not mean to question the fact that cancer is increasing in America, England, everywhere. There are some, many in truth, who do; and the observer must admit that this question, like all others, has two sides to it. When we reflect how common appendicitis, gall-stones, and gastric ulcers are to-day, in comparison to what they were thought to be twenty-five years ago, when none of them were operable diseases and therefore not studied with the accuracy with which they are at the present day, it is not difficult to see and admit possibilities of error in cancer statistics. Who believes that appendicitis, gall-stones, and gas-

* Oration in Surgery, delivered before the Minnesota State Medical Association, June 1, 1905.

tric ulcers are greatly more common to-day than they have aways been? Who believes that they are vastly more common in one section than another? That minor differences, racial, dietetic, and otherwise, are operative perhaps to a certain extent, none will deny, but all will admit that each of the above mentioned diseases has always existed about as commonly as they exist at present. We look for them now, and find palpable evidence of what we were formerly blind to. Is it believed that gastric ulcer and gall-stones are more common in your state and section of the country than in other parts of America? Yet two surgeons in a small town of Minnesota have reported 1,000 operations for gall-stones and half as many for ulcer. They have been pioneers and epoch-makers in gall-stone and gastric surgery, and have taught the rest of us how many such cases we have necessarily overlooked. So may it be with cancer. Certainly many cases now clinically and microscopically demonstrated cancer would formerly not have been thus recognized and recorded. Per contra, as many, perhaps more, cases formerly denominated cancer are now easily demonstrated by the miscoscope to be sarcoma, actinomycosis, tuberculosis, syphilis, etc.

Simultaneously with the announcement of Doyen's discovery, there came a strong article before the Surgical Section of the International Congress at St. Louis, September, 1904, from Professor Orth, of Berlin, combating the germ theory of carcinoma, and announcing his adherence to the cellular theory in the most positive way. It is very clear that if parasites are present they are intracellular and play a secondary, and not the chief, role as an etiological factor. They certainly do not, and, according to Orth, it is simply impossible that they should, bear the same etiological relation to cancer that the bacillus of Koch does to tuberculosis, and pyogenic cocci do to suppuration. The language of Orth could not be stronger, and considering its high source is therefore given:

"In order to produce pus or tuberculosis, etc., it is sufficient for the pus cocci or tubercle bacilli to reach suitable media; to bring about a secondary cancer it is absolutely necessary that cancer cells from the primary or from a similarly created secondary tumor shall reach the particular spot, and there continue their growth. In the case of secondary cancers we have to do with a successful transplantation of cancer cells; in the case of pus foci or tuberculosis there occurs a transplantation of the parasites, which do not themselves form the new focus, but they impel the local tissue, without any co-operation of the tissue of the primary focus, to certain pathological changes. Therefore there is an important difference between these two classes of phenomena; and one cannot conclude that since, in the case of pus foci, tuberculosis, etc., parasites play a role, this must also necessarily be the case in the carcinomatous new growths. One can, however, say that if in cancer parasites should happen to play a part, then these parasites must be of an entirely different kind from those above mentioned, because they must bear the closest relationship to the cancer cells which characterize the growth. I do not consider it impossible for an intracellular parasite to play a part here; but it is impossible for it to play an independent part. It cannot possibly in itself be the decisive factor in the new growth; it cannot determine the variety and character of the new growth, since the cells themselves, and only they, do this."

The transmission of a cancerous tumor from one individual to another, though often cited as evidence of the parasitic nature of the disease, proves absolutely nothing further than that a successful grafting has taken place. The tumor thus formed is the result of the multiplication of the cells introduced and is analogous in every way to epidermis when transferred from one person to another, as in skin-grafting. Until cultures from the supposed germ can cause, alone and of themselves, independent of cells, a primary tumor it is useless to insist upon the infectious nature of the disease. Cases of so-called auto-infectivity prove even less, for here the host has tissues admittedly prone to epithelial degeneration, and it is easy to understand how a succesful graft can follow prolonged contact.

The rare, if not unheard of, infection of operating surgeons by cancerous patients is the strongest possible evidence against the parasitic nature of the disease. Even, however, if the parasitic nature of cancer were established beyond question, we should still be largely in the

dark as to other essential etiological factors. Everyone in densely populated cities is probably daily exposed to the tubercle bacillus, and yet only a small minority are affected with tuberculosis.

That the old theory of continued irritation of epithelial tissues is almost, if not quite, necessary to explain the development of cancer I do not question. One has only to reflect that all forms of carcinoma are very generally found at points subject to persistent irritation, viz.: the lips, esophagus, stomach, cecum, rectum, tongue, uterus, and mammary glands. At least one excellent book has been written during the last year emphasizing the importance of heredity as a predisposing cause of cancer, and showing that at least one-third of all cases give a cancerous history. There is no question, I take it, that with the passing of the constitutional theory of cancer and the demonstration and acceptance of its local origin, about thirty-five years ago, there began a tendency to minimize the influence of heredity as a predisposing cause. It has been carried too far; just as has been the case with tuberculosis. The disease, of course, is not inherited, but the soil is prepared and made ready should the seed be sown at a time when epithelial tissues are prone to run wild.

That race, environment, temperament, habits, trauma, and possibly diet are at times influential may be allowed, but it would seem that more than one cause is usually operative.

Precancerous Conditions.—Much is written, more is thought, judging by statements one hears made in private conversation and from discussions in medical societies, concerning the precancerous state, yet comparatively little seems based upon indisputable facts. We hear a great deal about malignant degeneration of benign tumors and while it does occur, though much less frequently than is generally supposed, a careful investigation reveals the fact that very generally it is sarcomatous and not carcinomatous degeneration. Beyond the fact that superficial moles and warts, congenital or acquired, not infrequently late in life undergo malignant transformation, there is little trustworthy evidence.

J. C. Warren reported a series of breast cancer, 100 in number, in the December number of the Annals of Surgery, and in only a single case was there the slightest evidence that a benign growth had undergone cancerous change. A small fibroma, the size of a horse-chestnut and of twenty years' duration became the seat of carcinomatous change. I know of no other series of cases so accurately and conscientiously reported, and nearly all were examined by one microscopist of national repute, Dr. W. F. Whitney. If such malignant transformation can be shown but once in a hundred cases of breast cancer, the region of all others where it is supposed to occur most frequently, are we not, in recognizing its possibility, too strongly accentuating the probability of such change? According to Mr. Raymond Johnson, of London, the general opinion that breast tumors originally benign are prone to degenerate into malignancy, is incorrect, and cannot be proven. In a series of lectures delivered at the Royal College of Surgeons, of England, Mr. Johnson devoted considerable time to combating this well-nigh universally accepted view. He asserts that adenoma, which is by most authors supposed to be exceedingly liable to cancerous change, never does so, and says that no one has ever reported a case where encapsulated tumor, as the adenoma, has been seen bursting through its capsule and infiltrating the surrounding tissues. Until he has seen such specimens and examined them macroscopically and microscopically, he cannot believe they are of common occurrence, if indeed they exist at all.

Paget's Disease.—There is perhaps no opinion more general or more tenaciously adhered to by physicians, surgeons, and pathologists than the one that eczema or psoriasis of the nipple and areola, the so-called "Paget's disease," frequently leads to cancer. The commanding position of the surgeon first promulgating this view at once caused it to be generally accepted and taught. In a paper read before the Surgical Section of the American Medical Association at Baltimore, in 1895, I questioned the accuracy of the observation, and expressed the opinion that the Paget's disease was secondary to tubular cancer, and that the discharge from within caused the irritation without. Since then I have operated upon one case of Paget's disease, and it was undoubtedly secondary to duct carcinoma. This is the only case of Paget's disease that has ever

come to operation at my hands, and in a measure it confirms the theoretical opinion I had formed. This question has become an acute one since the excellent Bradshaw lecture of Mr. Mayo Robson, of London, in December last, in which he made a strong plea for operation in the precancerous stage. His position has been challenged by several, notably Roger Williams, who states that in only one-half of one per cent of areolar disease is there subsequent cancer; 2,000 cases were analyzed. Of the one hundred cases of Warren there was but one in which Paget's disease was, or had been, present. So at most the association between the two conditions is infrequent, and when it does occur the probabilities are that the external, areolar disease, is secondary to, and not the cause of, duct cancer. This view is supported by the investigations of Thin, Roger Williams, Raymond Johnson, and others.

Phimosis.—As fixed in the professional mind is the belief that phimosis is frequently antecedent to, and causative of, cancer of the penis. This would seem theoretically to be so; but is it?

Phimosis is too common a condition the world over, and cancer of the penis too rare a disease for there to be any close connection bewteen them.

Less than one per cent, according to the Registrar General's statistics, of the deaths from cancer in Great Britain, resulted from cancer of the penis.

In 1898 in my Chairman's address before the Surgical Section of the American Medical Association I called attention to the rarity of cancer of the penis in negroes. I had never seen a case; none had been treated in in the Louisville City Hospital; and the records of the Health office for the City of Louisville for a period of thirty years recorded no death from cancer of the penis in a negro.

I also pointed out that the negro, far more than the Caucasian, was affected with phimosis, in fact almost universally so and often to an extreme degree. The census statistics of the United States for 1900 are even more cogent and to the point, and show that although the death-rate for male negroes was 28.6 per 100,000 living, no death resulted from cancer of the penis. This cannot be explained by racial insusceptibility, for the African is more liable to both cancer of the uterus and mammæ than the Caucasian. Further, the Gnos, according to Roger Williams, are as liable to cancer of the penis as non Gnos. There is at most only a potential relation between phimosis and cancer of the penis.

In his position that gall-stones may cause cancer of the gall-bladder I believe that Mr. Robson stands upon ground better chosen, and yet we should not forget how rare primary cancer of the gall-bladder is, and how frequent gall-stones are, occurring, it has been said, in ten per cent of all persons examined at autopsy. It is doubtless true that in only those cases of infection and chronic ulceration, with its subsequent cicatricial tissue, of the gall-bladder that the danger of cancerous implantation is great. Too many such instances are reported by accurate observers to be ignored. It is only of recent years that gall-stone disease has been studied with care and accuracy, generally followed by operation, and supplemented by careful microscopic examination of the viscus when cholecystectomy has been performed. That increasing and incontrovertible evidence sustaining Mr. Robson's position will be forthcoming, now that cholecystectomy is so frequently resorted to, I have not the slightest doubt. The statistics controverting this view cited by Mr. Williams and others are convincing to those who rely entirely upon statistics. But as I have already said, it should be recalled that we are almost at the very threshold of any accurate knowledge on the subject of gall-stone surgery, and old statistics, while not valueless, are not necessarily conclusive.

Ulcer of Stomach.—While the possibility of gastric ulcer terminating in carcinoma has always been admitted since Cruvielheir's classical work in 1839, it is only recently that such a change is believed, and now only by a few, to be frequent. Opinions have yet to be crystalized upon this point. Zenker thinks that practically all cancers originate in ulcers, whereas his pupil Hauser estimates that only six per cent of all carcinomata have their origin in gastric ulcers. Mayo Robson performed gastro-enterostomy for cancer 64 times and in 38 (59.3 per cent) there was a "long history of painful dyspepsia suggesting the possibility of ulcer preceding the onset of the malignant disease." Of 157 cases of gastric carcinomata oper-

ated upon by Wm. J. and Chas. H. Mayo, 60 per cent gave a good history of previous ulcer, and almost exactly the same number as shown by Robson's experience. The opinions of such experienced clinicians and practical surgeons are far more weighty, because they are reinforced and confirmed by direct exploration, than the more theoretical opinions or even observations made at autopsy. I called attention to this point in the address on Surgery given before the American Medical Association at Atlantic City in 1900. Subsequent experience has taught me that a greater number of ulcers than I then supposed undergo malignant transformation.

The topography of ulcer and cancer is the same, and there is no room to doubt that many of the latter have their inception in the former. This is one of the strongest possible reasons for the surgical treatment of all chronic or rebellious ulcers, preferably by excision of the ulcer, or, if multiple, of the ulcer-bearing area, pylorectomy. Gastro-enterostomy, satisfactory as it is for a time, does not remove the lesion, and therefore prevent malignant change. I have never doubted that it must, in such cases, either give way to or supplement radical procedures.

The frequency of cancer of the cecum, and the fact, now pretty well established, that many begin in the appendix, is an additional reason for removal of the organ where it has suffered repeated attacks of inflammation. I have operated twice in elderly men during the past six months for advanced cancer of the cecum, and the evidence was positive in one case, and next to it in the other, that the malignant disease had its inception in the appendix. That cancer frequently originates in the inflammatory and cicatricial tissues about the caput coli, resulting from previous appendiceal attacks, I have not the slightest doubt. So this already fertile surgical region has within the year become of even greater interest on account of the fact that tubercular peritonitis often has its beginning in a tubercular lession of the appendix, as demonstrated by Mayo, and the further probability that carcinoma not less frequently has its inception in a neglected chronic inflammation of this viscus.

It will be seen later on that no one believes more than I in early—as early as possible—and complete operation in malignant disease, but I do not go so far as to advise operation in many of the so-called precancerous states. It is first necessary to show that a precancerous state exists, and then our duty becomes reasonably clear. I would not operate upon a leukoplacia of the tongue or lips because such condition has been supposed to invite epitheliomatous change. I have seen hundreds of epitheliomas about the mouth, and I have no trustworthy evidence that any, if preceded, resulted from leukoplacia. I certainly would not operate upon a case of Paget's disease in a young woman of child-bearing age on account of any tendency, *per se*, for it to be followed by cancer. I would operate upon a chronic ulcer of the stomach, preferably excising it, for here the evidence is more convincing. Further: Aside from the danger of cancer there are even greater hazards, such as perforation, stricture, resulting in dilatation, hour-glass stomach, etc.

We have been told that it is also best to operate in the pre-perforative stage of typhoid fever. Most of us, I fancy, find it difficult enough to make a diagnosis when perforation has actually occurred. If in doubt, we should perform an exploratory operation, and the same rule should obtain in suspected cancer, for the danger of delay is immeasurably greater.

With these preliminary, and I trust germane, remarks, we approach our subject, "Mammary Carcinoma."

Diagnosis.—He who advises a woman with a tumor of her breast, especially a woman past forty, to wait and see if it be malignant, is guilty of an unwarrantable and, therefore, censurable act. If he cannot make a diagnosis there are others who can in nearly every case, and in all cases by a perfectly easy, safe, and quick exploration. Let the public be educated, as they will be in time, to believe that an early diagnosis and prompt operation are both as necessary—I will go further—are more necessary in cancer than in appendicitis, for the latter may recover, and frequently does, without an operation, while the former without surgical intervention, inevitably leads to one of the most painful, lingering, and loathsome of deaths, anxiously awaited and prayed for many times, by sufferer and loved ones, before it comes.

We are just beginning in America to see an awakening on the part of laymen to the hazards

of appendicitis, and nearly every enlightened person knows something of its symptoms, its dangers, and the conservatism of early operation. Though the surgeon be ever so assiduous and discreet in his efforts to shield the practitioner who has dilly-dallied with the case, as is so frequently done, the patient and his family hold the physician, not the surgeon, responsible for an adverse result. Physicians realize this, and, having become more astute diagnosticians in this affection, they advise early, and therefore safe, operation. There has been a most remarkable improvement in this respect in Philadelphia in the past few years. My own experience shows but three pus cases in forty-seven operations for appendicitis, most of them acute, since September 1, 1904. That all were successful is largely due to the fact that in most instances an early diagnosis was made. In this disease we are far ahead of the English and the Continentals. I was surprised to find, three years ago, that cases of appendicitis going to some of the very best English hospitals were sent to, and kept in, the medical wards until pus formed, when they were considered, for the first time, surgical cases, and transferred. Visiting the same hospitals last summer I had a similar experience. But while this is true the English are keen on the subject of cancer. They have studied it carefully, and, as a general thing, rank and file, they are more alive to the possibilities of surgery for its relief than others. I am satisfied that practitioners throughout Great Britain are more impressed with the importance of, and do make earlier diagnosis in, breast cancer than is the case with us. The late Sir Mitchell Banks, while I was his guest in Liverpool last July, assured me that there had been an enormous change in his practice in this respect in the preceding five years. I saw him do several operations, and all were early, and what we would call good operative, cases. In none was there an evident tumor to the eye, though distinctly so to the touch. Two had moderate axillary infection of the lower glands; one little, if any, glandular involvement at all. Remarking upon the favorableness of his cases he told me of the great change for the better which had come in recent years. We cannot say that this is true of only Liverpool and its environs where the great influence and teaching of that forceful and charming man were most directly felt. Everywhere I went it was the same, and I now understand, better than I could before, the operative results of English surgeons.

Although the radical method of operating for breast cancer was introduced by Moore of the Middlesex Hospital, in London, in 1867, the English were slower than the Germans, Austrians, and Americans to give attention to the teachings of Moore, and to put them into practice. Banks, of Liverpool, was an early champion of Moore's operation, which consisted in a large incision, free removal of skin, sacrificing the entire gland in every case, and a free axillary dissection. The muscles were not disturbed, not even the fascia covering the pectoralis major. This step was introduced by Volkmann a few years later. The English were particularly sensitive about the most important step of the operation,—a free axillary dissection and removal of all diseased glands and fat. They both overrated its danger and underrated its necessity. Notwithstanding the fact that they were slow to put into practice the teachings of Moore, Banks, Volkmann, Gross, Meyer, and Halsted, their ultimate results were as good as those of the surgeons of other countries. This can be explained only in one of two ways: First, incomplete operations are as satisfactory in their ultimate results, and yield as great a percentage of cures, as complete operations; secondly, their cases were operated earlier. Certainly no one believes the first proposition. At the present time, and it gives me pleasure to record it, as many, perhaps more, English surgeons are doing a more thorough operation, usually Halsted's method, than is the case with us.

In addition to the usual signs and symptoms of cancer of the breast there are two methods by which a positive diagnosis can be made:

1. Aseptic incision into the tumor has been advocated and practiced. It is neither accurate nor safe, and many cases have been reported where infection of the adjacent tissues occurred through cells and juices thus liberated. It is unquestionably a dangerous practice unless followed by immediate operation.

2. It is much better to get the consent of the patient to a complete operation in all cases where

malignancy is suspected, provided both macroscopic and microscopic examination prove it to be necessary.

In the latter case a competent microscopist is asked to be present, and in ten minutes he can give a reliable opinion as to the nature of the growth. During the short period of waiting the wound should be plugged with gauze, the knife and instruments that have been used laid aside, and the hands of the operator again sterilized. It is best to send the entire tumor to the pathologist. If the report comes back *benign* nothing further is necessary beyond suturing the wound; if *malignant* a complete operation, preferably by Halsted's method, should at once be done. I have used this method for many years, have never known ill result from it, and by it, moreover, have, more than once, been saved the possible humiliation of removing needlessly a breast in young, child-bearing women. Twice have I been made to recognize cancer in two of the youngest subjects I have ever operated upon, 23 and 27 years of age, respectively, when it had hardly been suspected. One of the best disquisitions on this subject to which I have listened, or know of, was by one of your members, Prof. J. Clark Stewart, in his paper before the Surgical Section of the American Medical Association last June. I cannot understand why this practice is not a more general one. It is practicable, of course, only in a hospital. It is a little troublesome and tedious on account of arranging for and awaiting the pathologist's report. There is, moreover, I admit, the bare possibility of autoinfection where the surgeon is careless, leaving an open wound and failing to re-sterilize instruments and hands. But these objections are as nothing, mere trifles as light as air, in comparison to the weighty reasons for an absolutely safe diagnosis that it may be followed *immediately* by a complete operation. If we limit the exploration to aseptic incision, closing the wound and waiting indefinitely to remove the breast, if malignant, then the objections that have been made are quite to the point. Such practice cannot be too pointedly condemned. Aside from its immediate dangers it encourages procrastination, and this, in mammary growths, is always hazardous. But removal of the entire growth with capsule, if there be one, and, in the absence of a capsule, the adjacent tissue, then plugging the wound with gauze and waiting ten minutes, is an entirely different proposition; yet the two precedures are generally, almost always, confounded, and the paipable and admitted dangers of the one have lessened the popularity and usefulness of the other.

Prognosis.—There are three conditions, none of them sufficiently dwelt upon by authors, and therefore not appreciated as they should be by operators, which materially influence the prognosis of mammary carcinoma:

1. The pathological variety of the growth, more than any thing else, influences the prognosis, for better or worse. The tendency to axillary and other lymphatic involvement is much greater in both encephaloid and scirrhus than in adenocarcinoma; hence the more favorable results of operations for the latter.

2. The age of its host materially influences the rapidity of a mammary cancer. In the young, lymphatic vessels are numerous and patent, whereas in the old many have atrophied. Therefore metastases occur quickly in the young, often before they are suspected, which fact should prevent procrastination and encourage complete removal. For a better understanding of the lymph-bearing vessels of the breast in the young and old, relatively, we are mainly indebted to Chas. H. Mayo, Poirier, and Cuneo.

3. When carcinoma involves either of the sternal quadrants or the inner hemisphere of the gland, other things being equal, the prognosis is worse than it is in growths situated in the outer hemisphere or axillary quadrants. This is due, of course, to the danger of mediastinal infection. I must here insist, as I have done on former occasions, that malignant growths are more frequently thus situated than is generally believed.

Treatment.—It is easier to understand than to excuse the pessimism still too frequently expressed by surgeons, as well as by physicians, as to the curability of cancer by operation. Some, fully abreast with the times in other respects, are far behind in this one. Internists cannot be blamed for their lack of faith when surgeons frequently, and teachers occasionally, express doubts as to the beneficient results of a timely operation. There are some doing abdominal

operations which were unknown five years ago, and yet they are apparently ignorant of the possibilities of an operation for cancer rightly done. This is most unfortunate, for it encourages physicians to undervalue the importance of exactness in diagnosis when the growth is strictly local and, therefore, entirely amenable to operation. Moreover, it encourages the running after false gods, the chief of which is the treatment by *x*-rays, which are responsible for the loss of many valuable lives that might easily have been saved. It is almost inconceivable that relatively so few surgeons are doing a complete operation in mammary cancer. Yet it is eleven years since the publication of Halsted's epoch-making paper containing the most positive and convincing proof as to our duty when dealing with this pitiless enemy of womankind, and thirty-eight years since Moore advocated not so complete a procedure, it is true, but still a far more radical operation than is frequently seen at the present day. Operations for mammary cancer if performed, as they should be, in the first stage when the growth is small and strictly local, should furnish 75 per cent and upwards of cures. This is even less favorable than operations for cancer of the lip.

Cancers of the second degree, where the neoplasm has become adherent to adjacent tissues and there is moderate axillary involvement, the condition nearly always encountered at operation, are curable in 50 per cent of the cases.

In cancer of the third degree, where the entire breast is adherent to the chest wall beneath and the enlarged axillary nodes have coalesced into one large mass, possibly adherent to everything about them, but little can be promised. Still, operation should be undertaken, for now and then an unexpected cure is witnessed. I have had one such case myself, and recently while lunching with Prof. W. W. Keen he told me of a case of his where he at first declined to operate, the cancer was so far advanced; yet a complete operation gave perfect relief, and the woman died five years later of apoplexy entirely free from recurrence of the cancer.

The experience of another year has increased the conviction expressed in my paper before the British Medical Association at Oxford last July, that the supraclavicular glands should be explored—and removed, if enlarged—in all cancers situated in the upper hemisphere of the gland. It has been shown by Poirier and Cuneo that a chain of superficial lymphatic vessels passes from the breast directly over the clavicle, and empties into the glands in the posterier triangle of the neck. Of three such cases treated in the past year all were explored. In one there was unmistakable involvement; in the other two absolutely normal glands and fat were found. Unless there is macroscopic involvement I do not make an elaborate dissection of the neck, for I believe it to be unnecessary and needlessly to prolong an already lengthy procedure.

Extensive as these operations seem, and really are, the operative mortality can almost be ignored, as it is less than one per cent.

THE END-RESULTS OF THE OPERATIVE REMOVAL OF MALIGNANT GROWTHS*

By Archibald Mac Laren, M. D.

ST. PAUL

It seems hardly necessary for me to say to you that I appreciate very highly this honor which you have conferred upon me in electing me to the presidency of the Minnesota Academy of Medicine, a position which has been so worthily filled by my official predecessors. Trusting that I may be able to keep up the high standard which has been set for me, and that I may have your individual help in making our meetings interesting and instructive, I thank you.

I have always prized my membership in the Minnesota Academy of Medicine very highly, indeed, and can look back through the past seventeen years of delightful fellowship to the first informal meeting in the West Hotel when the Academy was formed. Most of us are still "hale and hearty despite our forty years," as one of my ten-year old friends recently put it in her original composition. A few of our most valued members and esteemed friends have gone over to join the great majority. Drs. French,

*President's Address before the Minnesota Academy of Medicine, November 1, 1905.

Millard, Senckler, Spencer, and Dunn are the names that occur to me, all of whom were charter members and were present at our first little gathering. To Dr. Millard, perhaps as much as to any one, do we owe the fact of our existence, although each of the others did his part and has left his stamp upon the Academy, helping to raise the standard of the entire medical profession in the Northwest to its present enviable position.

Our meetings have been full of pleasure and instruction, some of the most notable papers of the times having been delivered before this body. There has been occasionally a little too much business injected into the deliberations of the Academy to please some of us, and we are glad that in this respect there has been a change for the better. This body should be purely a social and scientific association, and, if you will allow me to make the suggestion, I think its meetings can be still further improved by so changing our constitution and by-laws as to delegate all business to our executive committee. This committee, as now formed, consists of three members and of the president, vice-president, and secretary as ex-officio members. It seems to me that we could safely leave all business matters in the hands of this committee, even the election of candidates to fill vacacies in our membership. This method of procedure has been followed by most of the social clubs of the country with entire satisfaction. If this were done I would place upon them the entire method of selecting candidates and the passing upon theses. If the thesis were exceptionally good, the committee should ask the candidate, after his election, to read his paper before the society. Our present rule is cumbersome and some times awkward, and the programs of the society are too much given up, in my opinion, to the reading of inaugural theses. These papers are very good, but perhaps not of as much general interest as papers which the society could secure.

The standing of the Academy is now so high that I have no doubt we could secure papers from the very best men in our own and in neighboring cities. Our present plan for a combined social and scientific meeting does not seem to be the very best arrangement possible. The *first* consideration should be the scientific part of the program. As it is now, that takes a secondary place. Nearly every month some few of the members leave just after dinner without attending any part of the scientific meeting. The dinner is usually a little late so that the after-dinner session is almost too short for two papers, and a trifle long for one. Several of the most successful small metropolitan medical societies that I know meet at 8 o'clock, or a few minutes thereafter, and have their program, which is followed at 10 or 10:30 by a lunch. There is a much better chance for social intercourse at a lunch than at a dinner. Time is becoming more important to all of us. If this plan were put into practice our meetings would be shortened from one to two hours, and still accomplish the same end. If this plan were to be followed it would necessitate the changing of the standing rules by cutting out the minutes, unfinished and new buisness, nominations and elections of new members; and the transfer of their duties to the executive committee.

In looking over the field of surgery for a subject which might prove of interest for your further consideration, it has seemed to me that it might be instructive to try to discover what were the end—results of the operative removal of malignant growths in a small list of cases. I have therefore taken all of the operations which I have performed for cancer and sarcoma from the year 1888 to October, 1902, and, as far as I have been able, I have traced them to their ultimate ends. In the cases where the growth has returned, I have tried to separate the regional from the deeper recurrence, and I have also tried to determine the length of life from the first symptoms of disease to the time of death.

The operative mortality has been great, because we are dealing with the worst and most hopeless of all surgical conditions. Inexperience and the faulty technic of ten and fifteen years ago gave a much higher death-rate than should follow the same operation today. I can look back upon several heroic attempts to accomplish the impossible, which only shortened the sufferer's life—any operation, which does not either alleviate suffering or lengthen life is a surgical mistake, and does surgery as a whole an injury. These poor people are only too

anxious for operative relief, when they come to realize the true nature of their disease, and it is very difficult to refuse, if one thinks there is any hope of recovery. As you will notice, I have not included any cases operated upon during the past three years; for, although one cannot say that a three years' interval without a recurrence means that the case is cured, still I have never seen a case die from a malignant growth that has shown no recurrence three years after removal One case of carcinoma of the breast lived thirteen years after her first operation, eventually to die of pulmonary carcinoma. She had five separate operations, her recurrence always came within the three-year limit.

I have operated upon 96 malignant growths up to three years ago, 70 sarcomas, and 89 carcinomata. 55 were of the uterus; 15 of the breast; and 26 in other parts of the body. The operative mortality has been 12. I have not been able to follow 22 cases, leaving 62 cases for our further consideration as to ultimate results. Of the 22 unknown cases it is only fair to conclude that some of this number are alive and well, for when I started this study two weeks ago, I wrote letters in various directions regarding these and other unknown cases, and was amazed to find that three cases whom I supposed to be dead were alive and free from disease. On the other hand, there is the chance that some of the cases now alive and well were mistaken in microscopic diagnosis. One case of supposed carcinoma of the cervix I am now inclined to believe was not malignant, but that is only a clinical impression, not being a microscopist myself. Of the 43 known uterine cases, 10 are alive from four to sixteen years since operation. Of the 12 breast cases, all Halsted operations, one is living five years after operation, without a sign of recurrence. Of the mixed cases one lived five years to die of old age. Subtracting these 12 cases, which are probably cured, from the 62 which we are studying, we have 50 cases. Of this number 46 died from recurrences, and 4 died from other causes within the next few months after the operation. In these cases my records show that the time which each patient lived after operation to eventually die of recurrence was as follows:

One lived 13 years; 2 lived 5 years; 1 lived 4 years; 5 lived between 3 and 4 years; 9 lived between 2 and 3 years; 17 lived between 1 and 2 years; 11 lived less than 1 year.

In regard to the duration of the disease from the time of the first recognizable symptoms we can approximately add six months to the above figures. In only a few cases were symptoms present one year before operation, although in one case a tumor of the parotid had been present six years before she was operated upon. Of this case I will speak again later, because it was of more than ordinary interest.

I was much surprised when I tabulated these cases to find such a large number of uterine cases (i. e. 10) alive and well, and such a small number (2) of the breast and mixed cases. This is particularly surprising when we come to consider that in the breast cases, which were to all clinical appearance favorable ones, we were able to remove the tumor and the healthy surrounding tissue, keeping some distance from the disease. This was also true in the osteo-sarcomata of the extremities; while on the other hand, it was necessary to go very close to the diseased tissue in removing the uterus through the vagina. The second case-history in my list, an amputation of the breast, was done within a few months of the publication of Halsted's first paper in 1891. I was immediately impressed with the conclusions which he drew, and have always followed his line of procedure. In spite of this fact, only one of the 12 cases which I have been able to follow, was alive and well five years after the operation. Two died from other causes in the next 12 months.

There was only one regional recurrence; all of the others died from either general or pulmonary carcinoma. Of this number 1 lived thirteen years from the time of her first operation; 2 lived three years; 2 between two and three years; 3 between one and two years; and three less than one year. Of the uterine cases, 55 in number, 9 were only palliative operations, the curette and cautery being thoroughly used. Most of these cases were operated upon, following the method of John Byrne, of Brooklyn.

It was thirteen years ago that Dr. Byrne reported 80 cases of carcinoma of the uterus where he had simply cauterized the diseased tissue with the galvano-cautery. Of this number 50 were

alive and well at the time of the report, and 24 of this number were alive and well from four to seventeen years after operation, without recurrence. Dr. Byrne's idea was that the cancer cells were destroyed deeper in the tissue than they could be if removed by any other method. There is no question about Dr. Byrne's honesty nor about his great clinical experience. There may have been doubt in the pathological findings. One of the cases operated upon by this method lived three and one-half years from the time of her first symptoms, and one, in which the cervix was practically destroyed, and the vaginal wall invaded, was known to be alive and well nine years after her operation of galvano-cauterization. The rest of these uterine cases, 46 in number, were vaginal hysterectomies, the earlier ones being done with the clamp, and the last 35 and more with catgut ligatures. Of the 55 cases there were 6 operative deaths; the youngest case was 24, the oldest 70. The ages were as follows:

Four between 20 and 30; 8 between 30 and 40; 24 between 40 and 50; 12 between 50 and 60; 6 between 60 and 70; 1 was over 70.

There were ten cases living as follows:

One at the end of 16 years; 1 at the end of 13 years; 1 at the end of 11 years; 2 over 9 years; 1 at the end of 8 years; 1 at the end of 6½ years; 1 at the end of 5 years and ten months; 2 at the end of 4 years.

My histories give the location of the recurrence in only 16 cases; 13 of these were regional, and 3 central.

If the disease had broken through the uterine or cervical wall and invaded the base of the broad ligament or extensively involved the vaginal wall vaginal hysterectomy proved of little or no value. Some of the diseased tissue is usually left in my experience, the course of the disease is hastened rather than delayed, and the patient does not get enough respite from pelvic pain to make the operation justifiable.

The radical operation for cancer of the uterus which has been very strongly recommended by some operators in the past few years, is still of necessity an unproved agent. All agree that it is accompanied by a higher primary mortality, and that there is more danger of urethral fistulæ. But these objections are unimportant if it can be proven that the number of ultimate cures is greater. Olshausen's experience in 671 hysterectomies for cancer leads him to favor the vaginal route, using the combined operation for cases in which the parametrium is invaded.

If I were to draw any conclusions from this small and imperfect list of cases, it would be that the operations which demand wide dissections and removal of neighboring glands are not necessarily proven, and that they need further neighboring tissues and glands, as in the breast, study and prolonged observation. When they can be easily and safely removed without increasing the mortality of the operation, this should be the course to pursue, but I am not convinced as yet that this rule holds for removal of the uterus and rectum.

Several years ago my partner, Dr. Dewitt, returned from New York very enthusiastic over the possibilities of Cooley's erysipelas toxins, in the treatment of inoperable malignant tumors. We tried them in a considerable number of cases (about 15). There was absolutely no effect that we could see except in one case, this was a spindle-celled sarcoma of the parotid, which returned soon after removal. A course of erysipelas and prodigiosus toxins, prepared under Dr. Cooley's direction, caused a complete dissipation of the swelling in the neck on two different occasions. She lived four years after the operation eventually to die of general sarcomatosis. It seemed to us in this case that the course of the disease was remarkedly affected and the woman's life prolonged by the use of the toxins. A few inoperable malignant growths which have been exposed to the effects of the *x*-ray have also seemed to be delayed in their progress. But the only cure today, as in the past, lies in the early and thorough removal of the growth at the earliest possible moment.

Because of the difficulty of diagnosis in many cases and because others are too long neglected, the end-results in cancer will always be the saddest and most unsatisfactory page in surgery.

SHOCK AND ITS TREATMENT*

By G. R. Curran, M. D., M. S.

MANKATO, MINN.

Surgery was founded on empiricism, and for centuries its theories and practices would make the present-day charlatan blush with envy. By the discovery of the circulation of the blood, the mysteries of the body began to be unlocked, and the study of anatomy was added. The surgeon became an anatomist and a skilled operator, but sepsis and shock held sway. Bacteriology and pathology banished the dread of sepsis, and the art of surgery became a science. Surgery was then found to be interwoven with every other department of medical science; and it was through the department of physiology that shock, the last impediment to successful surgery, was to be solved. A few years ago Crile and Cushing, in this country, and Lockhart, Sherrington and others, abroad, began to study shock physiologically. It was produced in animals fully anesthetized, and all the phenomena carefully recorded. It was thus determined that shock was caused by the fall in blood pressure due to the exhaustion of its vasomotor centers, and that collapse was caused by a sudden fall in blood pressure, due to a paralysis of the vasomotor centers. Hemorrhage and cholera cause collapse by the sudden withdrawal of the circulating fluid.

The causes of shock may be divided into two main classes: the effect of injury or operation on the important nerve paths of the body, and the effect of exposure and injury of the abdominal viscera. All the main nerve paths have a depressor nerve, which, when stimulated, lowers blood pressure, and also a pressor nerve, which, when stimulated, raises the blood pressure. Cold will inhibit the action of the pressor nerve only.

Cutting the skin, and dilating the sphincter and the os uteri will increase blood pressure. Burns of the second and third degrees will cause more shock than burns of the fourth and fifth degrees, because their terminal nerve filaments are still able to register the condition of the tissues in the central nervous system, while in burns of the fourth and fifth degrees the terminal nerve filaments are entirely destroyed, rendering them incapable of sending any message to the central nervous system. In amputations of the extremities, it will often be noticed that when the main nerves are severed the pulse will run up twenty to thirty beats a minute. By severing these nerves a fall of blood pressure is produced. Pulling on the brachial plexus in amputations of the breast has lowered the blood pressure one-third. In shock the arterial pressure is lowered and the venous raised; the blood in the latter is a bright arterial hue, due to the dilatation of the arterioles and the paralysis of the metabolic processes in the tissues. Shock is caused by the exposure and handling of the abdominal contents. Evisceration, pulling on the intestines, sponging, irrigating, and exposure will all cause shock. In abdominal shock we have marked congestion of the splanchnic blood vessels and an irritation of the sympathetic nerves. Operations in the upper part of the abdomen cause more shock than operations in the pelvis.

In cases of shock the following sequence of events tends to take place. There is at first a lowering of blood pressure, or a tendency to lower blood pressure. The vasomotor centers establish the former tension, or it may for a time be increased. There comes a time when the vasomotor centers fail to keep up the blood pressure and the heart is called on through the cardio-accelerator center for an increased speed, and in time this also fails to maintain the proper pressure. The blood remains a bright red, metabolism ceases, which in turn increases the vasomotor exhaustion, and the end is soon reached. When the blood pressure begins to lower in shock the portal pressure increases. During an operation the specific gravity of the blood increases, and is lowered with difficulty by intravenous injections. In shock the temperature is lowered, because the heat of the body is dissipated and is not produced. Ether increases the

*Read before the Minnesota State Medical Association, June 1, 1905.

blood pressure and maintains it as long as it is given, and the reverse is true of chloroform. The blood pressure is well maintained during major operations in children in spite of the opinion to the contrary, provided hemorrhage is not great and that the length of time is proportional to the age. The blood pressure inold age may be termed as irregular, going quickly up and down, and is not to be depended upon. Shock in an operation or an injury is equal to the sum of the mechanical insults to the peripheral nerves, which so excite the vasomotor centers that they become exhausted.

Our task, then, to prevent shock, is to prevent either the sending of the message or the receiving of it. The first problem has been solved in injuries or operations on the extremities. By the injection of a 4 per cent solution of cocain into the main nerve trunks, we may absolutely prevent the nerves from sending any messages, and by its use shock in operations on the extremities is prevented. The nerves to be cocainized in the lower extremity are the sciatic and crural, and the brachial plexus in the upper. At first thought we might think that spinal cocainization would meet all these requirements in the treatment of shock, but, unfortunately, it paralyzes the vasomotor centers, and is one way to produce it. In abdominal work we cannot block the impulses, but we can limit the excitement of receiving these messages. The best drug so far found for this purpose is morphine, used just before and just after the operation. It also quiets that mental fear of an operation that often itself produces shock. The other therapeutic remedies are ergot, given hypodermically, which acts in a few minutes, contracts the dilating arterioles, and maintains blood pressure; and adrenalin which will keep the blood pressure up only for a few minutes, and therefore must be given constantly and very slowly intravenously in about 1-50,000 solution. In giving normal salt solution Crile has shown that after about a pint of normal salt solution to every hundred pounds of body weight has been given, the fluid will leave the vessels as quickly as it is given. For ordinary cases the best way is by the rectum, and as slowly as possible. Of course, in hemorrhage it should be given intravenously, and as quickly as possible. The most important mechanical means for the prevention of shock is to keep the body warm. The operating table should have a hot-water or electrical attachment. As the splanchnic vessels are congested in abdominal shock pressure on the abdomen by the hands or by a tight abdominal binder will aid in driving the blood to where it is needed. Elevate the foot of the bed at least a foot. The last mechanical means to be mentioned is any method that will press the blood out of its peripheral vessels. A bath of a fluid of a heavy specific gravity would do it. Crile uses a rubber suit of two layers to be inflated with air and the right amount of pressure maintained with an air pump.

We have mentioned the fact that after the vasomotor centers had failed to keep up the blood pressure, the heart was called on for increased work and increased speed. There is nothing the matter with the heart; its rapidity is only secondary to the low blood pressure. This is where the older therapeutists failed, and treated shock with heart stimulants. We may say positively that in the treatment of shock strychnine, digitalis, alcohol, and nitroglycerine are either inert or harmful. Crile found that the easiest way to produce shock was by big doses of strychnine, and that the control dog that received no digitalis lived as long as the one that did.

I can, in closing, only sugest one other idea in the treatment of shock, and that is the value of time. Any one will do well to read M. H. Richardson's article in the St. Paul Medical Journal for June, 1905, on the value of time in operating. Every operation over an hour and a quarter long tends to produce shock. It is better to put our patient to bed without shock than to be too careful over the little niceties of technic. It is better to do two operations than to subject a patient to this dangerous condition.

If a patient begins to vomit long after a radical operation for carcinoma of the stomach, do not jump to the conclusion that the cause is a local recurrence. It may be a metastasis in the brain.—American Journal of Surgery.

ST. BARNABAS HOSPITAL

MINNEAPOLIS

A CASE OF DEFORMITY OF THIGH RESULTING FROM AN OBLIQUE FRACTURE OF THE FEMUR

IN THE SERVICE OF DR. W. E. ROCHFORD

Frank P, aged 9, farmer boy, Bohemian. The patient entered the hospital March 19, 1905. While playing in the hay-loft in the barn, he fell to the floor and sustained a fracture of the right femur, a little about the center. He was attended by the local physician.



Fig. 1. This retouched skiagraph shows the position of the bones before the operation.

Five weeks after the accident, he was brought to St. Barnabas Hospital, and placed in my charge by the physician then attending him. There was a four-inch shortening of the injured limb, and a bulging and bowing out of the thigh, causing marked deformity and swelling at the seat of the fracture. The patient had been confined to his bed, all of the time, and was very nervous and timid. General nutrition was only fairly good.

On March 20, two days after entering the hospital, an operation to correct the deformity and to secure bony union was performed. An incision on the outer surface of the thigh and about six inches long was made over the center of the fracture, exposing clearly the fractured ends. The fracture was found to be oblique, with great displacement and over-riding of bones. There was ligamentous union. The connective tissue and callus around the fractured surfaces were removed with a knife and sharp curette. An attempt was then made by manipulation and strong extension to put the fragments into normal position. The powerful muscles of the thigh had contracted so much, producing about four inches shortening, that it was difficult to overcome it. A strong assistant making continuous extension for about twenty minutes enabled me to secure perfect co-aptation,



Fig. 2. Skiagraph showing the position of the bandaged limb.

and then an effort was made to wire the bones, but it proved useless. The bones could be held in place only by the assistant continuing the powerful extension on the leg. With the fractured ends held in normal position, I gripped them with a Ferguson lion-jaw forceps, and when the assistant released his hold on the limb, there was not the slightest displacement of the fracture. The forceps held the fracture so securely it was impossible to disturb them. I then decided to dress the fracture with the forceps left on. The handles of the forceps were secured together by wire and adhesive plaster. A strip of iodoform gauze was placed in the wound for drainage. The wound

was closed with sutures close around the forceps. A copious dressing of sterile gauze was placed over the wound, and a plaster-of-Paris cast was applied to the limb, extending from the toes up around the thigh and pelvis, the plaster embracing the handles of the forceps. No extension was necessary, the forceps holding the bones in place, and the fracture was maintained in place by the cast when the forceps were removed. The treatment otherwise was practically the same as for any other ordinary compound fracture, care being taken that asepsis was perfect.

The forceps were left on about fifteen days. A window cut in the cast allowed the wound to be dressed when necessary. There was very little reaction in the wound following the operation. When the forceps were removed the wound closed without any difficulty.

The patient was discharged from the hospital on May 29. He was then able to walk on the injured limb, but the cast was not removed until three weeks later. There was no shortening or deformity, and the contour was perfect as measured with the other leg.

The method here used and the excellent result obtained have encouraged me to devise a forceps especially for this purpose. Fig. 1., which is a retouched skiagraph shows, though imperfectly, the condition of the fracture just before operation, and Fig. 2 shows the position of the bone with the forceps attached, and was taken on the day the dressing was removed, fifteen days after the operation.

The result was perfect.

CASE OF TUBERCULAR PERITONITIS, PULMUNARY TUBERCULOSIS, CYSTIC OVARIES, AND APPENDICITIS

In the Service of Dr. A. E. Benjamin

Miss S., aged 22, very tall, usual weight, 156 lbs., had ordinary appearance of good health.

Family History.—Father died at 55 years of some kidney disease, probably tubercular; grandfather and uncle died also of tuberculosis; mother perfectly well; one sister has tubercular spine.

Personal History.—Has had usual diseases of childhood. She was unable to participate as a child in the ordinary sports, as she tired easily. She gave a history of having had dysmenorrhea, and a great deal of tenderness at all times over the lower abdomen. At 19 she had an attack of peritonitis, which was quite severe; and two subsequent attacks, closely following, which were also quite bad. The first atacks came on very suddenly and with severe pain. She had a great deal of vomiting, distention of the abdomen, bowels constipated. Her subsequent attacks were similar in character and about two months apart.

I first saw the patient in October, 1902. She was just recovering from an attack of peritonitis. A period of rest and careful selection of diet prepared the patient for operation.

Physical examination revealed a fixed condition of the pelvic organs, with possible cysts of the ovaries and pelvic adhesions. At the time of the operation all of the organs in the pelvis were found firmly adherent; multilocular cysts, ranging in size from 3 to 8 cm. in diameter, arose from the ovaries. The cecum and small intestines were firmly united by adhesions, and loops of intestines were adherent to the diseased tubes and ovaries. Tubercular nodules were present over the cecum, and covered numerous small areas of the small intestines. The adhesions were so extensive and so firm that it was impossible to get at the appendix without stripping the serous membrane from the bowel, and causing a severe hemorrhage. Owing to this condition the appendix could not be seen, and was not removed. A number of cystic cavities of the ovaries were evacuated, and the cysts removed where possible. Because of the firmness and extent of the adhesions, as well as the unfavorable condition of the patient, nothing more was done. The abdomen was then closed. The patient steadily improved after the operation, and was apparently well for a time, but had a few mild attacks of peritonitis of short duration. An attack, lasting three weeks, occurred about six months after the operation. After this attack she was well for two years.

In January, 1905, severe and sudden acute symptoms of peritonitis with possible appendiceal involvement occurred, lasting seven weeks.

The temperature ranged between 99° and 105°. The soreness and chief involvement appeared to be of the left abdominal and pelvic organs. She also coughed a great deal at times. Mucous râles were present in both lungs; and tubercle bacilli were found in abundance in the sputum. The patient, however, gradually improved, the cough ceased, appetite became normal, and the weight increased, but she complained of abdominal tenderness. Tubercle baccili were absent from the sputum.

A second operation was determined upon to remove the offending organs. This was done in April, 1905. The omentum was found adherent in a number of places along the site of the former incision. The appendix was considerably enlarged at the outer four-fifths, while the proximal end was narrowed to a very small cord, and that was removed. The meso-appendix was very small. The ovaries were both cystic; the cysts ranged from 2 to 7 cm. in diameter. They were thin-walled and contained clear serum. Both tubes were adherent and enlarged. The peritoneum completely enveloped the fimbriated extremities. No signs of the former tubercular condition were present. The left ovary was resected, and the cysts removed. Both tubes were removed. The broad ligaments were brought up to the horns of the uterus, and all raw surfaces covered and the abdomen closed. The patient made an uninterrupted recovery, and has been well since. She has no cough, has gained greatly in flesh and looks well.

The important points in connection with this case are:—

1. The severity of the symptoms.
2. The numerous attacks.
3. The extent of the disease.
4. The numerous cysts of the ovaries.
5. The diseased tubes without a history of a primary infection.
6. The condition of the appendix at the time of the second operation.
7. The extent of the tubercular inflammation at the first operation, and the entire absence of apearance of tubercular trouble at the second operation.
8. The lung involvement and the entire disappearance of active symptoms, and the absence of bacilli in the sputum.

DR. ABBOTT'S
PRIVATE HOSPITABLE
MINNEAPOLIS

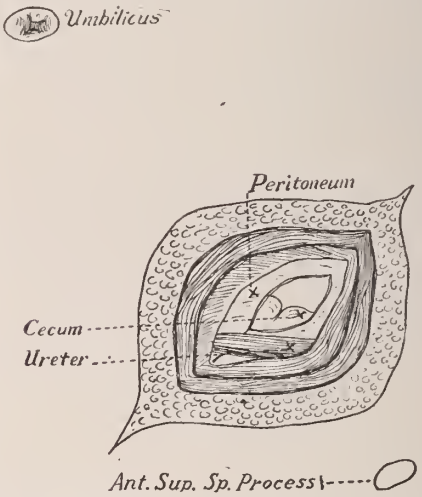
ANATOMICAL ANOMALIES COMPLICATING APPENDICITIS, WITH REPORT OF TWO CASES

By Dr. A. W. Abbott

Case 1.—T., a boy aged 9 years.

After three weeks' illness the boy was brought to this hospital with a large abscess in Douglas' sac and rising above the bladder. This was immediately drained through a median anterior abdominal incision. His condition rapidly improved so that the removal of the still inflamed appendix was undertaken in two weeks after the pelvic abscess was drained.

On cutting down on the appendiceal region all



Showing the position of the Ureter, just over the Peritoneum, after being freed from inflamed tissue.

structures below the internal oblique were found so matted and adherent that the cecum was reached before any definite landmarks could be made out. After freeing the median side of the cecum what seemed to be the appendix was found lying parallel with the median line of the body, one and one-half inches below the anterior superior spinous process of the ilium, but above the cecum and to its outer side. This supposed appendix was laid bare, and when brought well into view looked more like a ureter than an appendix. This it proved to be after further careful dissection downward nearly to the bladder. It lay really in the anterior abdominal

wall, just under the peritoneum. When within about one inch of the bladder it turned sharply downward and to the right, and so under the peritoneum to the bladder. The upward course of the ureter was not traced for fear of tearing the very fragile bowel, but on making traction it seemed to dip down to nearly its usual position, but more to the outside.

CASE 2.—Mrs. H. miscarried several years ago and then flowed irregularly for two weeks. She was taken with sudden colicky pain in the right side with faintness. There was a tender mass the size of a lemon in the right pelvis. The uterus was rather large. There were frequent pains with nausea, but no temperature. The family physician made a diagnosis of appendicitis, but in view of the very typical history and physical findings I was inclined to the diagnosis of tubal pregnancy or perhaps a combined appendicitis and tubal gestation.

The incision was made in the median line, and the following conditions found:

1. A Meckel's diverticulum arising from the ilium three inches above the ileocecal valve. This was about three inches long, and was curved upward and then around to the base of the appendix, where it had been attached, but had sloughed off, leaving its end open.

2. An appendix five inches long and perforated at its base. The appendix was traced downward, and its tip found attached to the right horn of the uterus. The appendix was adherent to the right tube for its whole length.

3. The right tube, lying under the appendix and attached, as before stated, to its entire length.

4. There was no tubal pregnancy.

The first case illustrates an anomaly so rare that none of us will probably meet with it again, and yet it again points to the fact that in abdominal work we must expect to have to deal with the unexpected.

The second case is not so rare, but it shows a condition that would be puzzling to a surgeon unless he was ready to understand and treat all possible anomalies.

IN PRIVATE PRACTICE

PASSAGE OF A KNIFE IN A CHILD OF SEVEN MONTHS

REPORTED BY DR. P. H. BROWN

SISSETON, S. D.



Exact Size of Knife.

The above cut shows the exact size of a bone-handled knife which was swallowed by a child seven months old, and which passed from the bowels on the eighteenth day. The bone parts of the handle separated from the metal part, and passed from the bowels at the same time as did the metal. The knife was in the stomach on the tenth day.

The child suffered no inconvenience.

CLINICAL MICROSCOPY

CONDUCTED BY GEORGE DOUGLAS HEAD, M. D.

OCCULT BLOOD IN FECES

In the January 1st (1905) number of THE LANCET the writer gave a resumé of work done by various observers upon the so-called occult blood test in feces. This is a test devised by Boas to detect the presence of small quantities of blood in feces, which heretofore have escaped detection either by macroscopical or microscopical examination.

In the July (1905) number of the American Journal of Medical Science, Steel and Butt give the results of the examination of 720 stools from 100 patients for occult blood. The writers used the guaiac-turpentine test of Weber and the aloin-turpentine test of Klunge and Schaer.

The technic of the test found most reliable is as follows:

Take 5 grams of fecal matter, soften with a little water, and mix with its own bulk of ether

in a test-tube, shake well, and allow to stand for fifteen minutes. Pour off the supernatant fluid. To the remaining feces add one-third of its volume of glacial acetic acid and 10 cc. of ether, shake well, and allow to stand for fifteen minutes. Make a solution of aloin by adding to one-third of a test-tube of seventy percent alcohol as much aloin as will go on the end of a spatula. Two or three cc. of the clear aloin solution is then mixed with an equal amount of the ethereal acetic acid extract, then two or three cc. of old turpentine (turpentine exposed to the air for two weeks) is added.

If blood is present in the feces the whole of the mixture turns pink, which gradually deepens to a cherry-red, or the aloin solution sinks to the bottom and becomes a cherry-red. If the test is negative the color of the mixture remains a light-yellow.

Patients should be put on a meat-free diet for three or four days prior to making the test. The ingestion of meat or meat juice in large quantities will give a positive reaction. No other articles of diet will give the test. Iron, given as a medicine, does not produce the reaction.

In interpreting the diagnostic significance of the test, blood from the nose and lungs must be excluded, as also must gastro-intestinal hemorrhage, from cirrhosis of the liver, purpura, tuberculous ulcer, typhoid ulcer, hemophilia, hemorrhoids, fissure, and fistula of the rectum.

Concerning the presence of occult blood in the stools of cases of gastric and duodenal ulcer the writers conclude:

Occult blood is intermittently present, appearing at intervals of two or more days, and sometimes once a week. It is usually more marked after an attack of pain. When rectal feeding is commenced the bleeding stops in a few days. Persistence of the bleeding suggests cancer superimposed on ulcer. Recurrence of hemorrhage upon resumption of solid food tends to show the ulcer to be a chronic one.

From a study of occult blood in the stools of six cases of cancer of the gastro-intestinal tract the writers have this to say:

Occult blood was present in all. The presence of the test is of no value in making an early diagnosis, since ulceration must be present in order to have hemorrhage. The usefulness of the reaction is greater in excluding cancer than in demonstrating its presence. It is likely to prove of great value in differentiating between gastritis with anacidity and early carcinoma ventriculi, and between simple ulcer and carcinomatous degeneration of ulcer.

PROTOZOA IN THE STOMACH

Of late there has been considerable interest aroused in the diagnostic significance of protozoa found in the fasting stomach-contents of cases of gastric disease, particularly cancer of the stomach.

Nichols, (Amer. Jour. of Med. Sciences, July, 1905) gives a review of the cases reported to date, and details a case of his own. His case was that of a man, 35 years of age, who had suffered from chronic indigestion for 14 years. At the time of the examination he was suffering from the symptoms of partial stenosis of the esophagus at the cardiac end. The stomach-contents were alkaline. Free HCl and lactic acid were absent. Macroscopically large numbers of flagellate protozoa were seen actively motile which the author classed as trichomonads. The patient died ten days later, the diagnosis being carcinoma of the stomach, involving the cardiac end. There was no autopsy. Nichols has collected twenty reported cases in which protozoa have been found in the stomach-contents.

The variety of protozoa found in all the cases was flagellates, (trichomonas intestinalis or megastoma entericum). Sometimes amebæ were associated with the flagellates. The author gives the following directions for finding the protozoa:

The material should be removed from the fasting stomach by the stomach-tube. It should be examined while fresh and warm, as cooling checks the activity of the organisms. Fetid, bloody, alkaline or neutral gastric contents are most liable to contain the parasites. The organisms will be recognized under the microscope by their active motion.

As to the diagnostic significance of protozoa in the stomach-contents the writer concludes that more observations, both positive and negative, are needed, not only in cancers, but in non-cancerous conditions. Colnheim's opinion, that the condition is pathognomic of cancer is no longer entirely tenable.

The parasites, when present, are strongly indicative of the existence of non-obstructive cancer of the stomach. Out of twenty-three cases, twenty were probably carcinomatous.

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AND
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ANNOUNCEMENT—AN ASSOCIATION JOURNAL

The Minnesota State Medical Association, through the House of Delegates and its working and executive body, the Council, has, after many meetings and consultations, entered into a contract with THE LANCET to become the journal of the Association.

THE LANCET so far merged itself in the title-page that the new publication will hereafter be known as THE JOURNAL OF THE MINNESOTA STATE MEDICAL ASSOCIATION AND THE NORTHWESTERN LANCET. The publication of the new journal will be under the direction of the State Medical Association entirely, and will be managed by a committee of the Council. The present editor, Dr. W. A. Jones, will continue as the editor of the new journal until such time as the Association sees fit to make a change.

For the convenience of the editor, readers, and abstractors, and on account of the extended title-line, it may seem necessary to abbreviate the title into the JOURNAL-LANCET.

Although the journal is owned in part by physicians and is wholly under their management, the future policy, as regards reading and advertising matter, will be directed by the State Association and the journal will be actually managed by the Association.

A committee of the Council, Dr. W. S. Fullerton, its Chairman, and Dr. Thos. Mc Davitt, of St. Paul, and Dr. F. A. Knights, of Minneapolis, will be the advisors of the Council and the editor.

In this new departure the editor asks for the loyal support of every member of the Association, and to further carry out the policy of the State Association the journal must be the medium of communication and information between the members of the county and district societies. To that end the secretary of each county and district society is urged to keep the editor in close touch with the changes in each official family, the program of meetings, and, particularly, the time and place of meetings, in order that the Councilors may do their work successfully.

Items of news in the profession will be welcome. This column should be of particular interest, not only to the State members, but to readers in other states. Hospital and clinical reports are urgently solicited, for they are of common interest and more instructive than didactic communications.

The committee hopes to increase the interest of the profession in the journal, and to make it of practical value to its readers. From time to time the reading pages will be increased in number, as necessity demands. It is the aim of the editor to present material that will be of benefit rather than that which requires much time in its assimilation.

There is a good deal of scepticism among readers of medical literature as very much of the reading matter in medical journals is of little value. Judgment in selection and literary ability is what is needed for permanent values in medical papers.

The editor and the committee will be burdened with responsibility, and it should be shared by those who are willing to aid and assist by scientific co-operation.

Unless the members of the Association are earnest and active the success of the new departure will be doubtful.

The committee are confident of united support. Many letters have been received showing more than a friendly interest, and the journal should go forth on its mission with the assurance of success.

Read your state journal. Do not simply take it from its envelope and glance at the headlines, but read its contents, criticise it if you will, but support it.

The journal will be sent to every member of the Association, and the subscription price is paid for out of the Association treasury.

THE COUNCILORS AND THEIR DUTIES

A review of the work of the Council and the report of the Councilors is a duty imposed upon every member of the State Association. The Council is the executive board of the House of Delegates, and is responsible to them and to the State Association for the performance of its special duties.

As the organization is still young and not entirely familiar with the obligations imposed upon it, the Council have encountered many difficulties that will in time be surmounted.

Criticism of a friendly sort is expected until the duties of the Councilors are more clearly defined.

First and most important, the Councilor is an official organizer. To properly organize a county or district society the visitor must know his district and its needs, and he should be personally acquainted with all the physicians in his territory. This demands a large amount of time and expense, the neglect of personal business, and the sacrifice of comforts. The House of Delegates have provided a fee of ten dollars a day for each Councilor while in the performance of his duties. This cannot compensate a busy practitioner who spends many days in the work. To do the work properly and to accomplish the best results, one or two men should devote the greater part of the year to organization and frequent visiting, in order to study the needs of each society and to unite the profession throughout the state. The organizers should therefore receive adequate compensation, or the results will not be satisfactory. Most of the Councilors have carried on their work by correspondence, and all have acknowledged the difficulties of satisfactory communication with the various societies. Those who personally visited their district were satisfied with the progress made.

The greatest and the most unexpected problem is the slack manner of doing business and the indifference manifested by the secretaries of the county societies. Important letters were unanswered, changes in the officers were not reported, and no records were forwarded whereby a Councilor could keep in touch with his district. This is inexcusable, and can be corrected only by frequent visitation or some system of penalties.

The Councilor is willing and anxious to make his visits, but is hampered by lack of notice of society meetings.

If the county societies were conducted in a business-like manner or had a systematic head to their organization, the work could be done orderly and promptly. Then if the society did not prosper the fault would lie with the Councilor. As it has been so far, both county officials and Councilors are equally at fault. The organization of societies in Minnesota has been needlessly delayed, and the state is behind other states in the performance of its duties.

Now that the State Association has its journal which is received by every member of the Association, there should be no further excuse for delay in organization or publicity.

THE JOURNAL-LANCET should be the medium of notification, and hereafter the Council will expect the secretaries of the county and district societies to keep its readers informed of meetings, programs, and official changes.

In a letter to the Journal of the A. M. A., for Oct. 21st, Dr. McCormack has severely criticised the medical organization in Minnesota. He fully recognizes the handicap of Dr. Fullerton, the chairman of the Council, and places the blame upon the physicians who failed to carry out their part of the program.

Dr. McCormack visited Minnesota at an unfortunately early period, and his meetings were not always largely attended, although in many of the cities the attendance was large and the meetings were enthusiastic. He finds that the

vigilance in the enforcement of the medical law is lax, and that legislation is hampered by indifference and lack of interest, all of which can be remedied by the harmony which is the outcome of systematic organization.

Strength and virility in the Northwest have been accredited to us. If we have lost either, let us make haste in building a new reputation that will place Minnesota in the front rank again. We can do this if we unite our small organizations into one great association, full of purpose and determination.

Dr. McCormack propounds a good text when he says of the public and the profession: "The public at large will hold no high estimate of those engaged in any calling if the members themselves do not stand up for each other. There is no place for jealousy in the heart of the true physician."

THE TRANSACTIONS

We expect to publish in our next issue a complete report of the transactions of the 1905 meeting of the State Association, with the roster, arranged both alphabetically and by county and district societies. Of course no book of transactions will be issued hereafter.

A GOOD EXAMPLE

The North Dakota State Board of Medical Examiners has succeeded, within a short time, in forcing from practice in that state eight men having no certificates; and the Board believe they will soon drive from the state every man attempting to practice without a certificate. This encouraging news, shows what can be done with proper laws.

North Dakota is far and away ahead of Minnesota in the matter of protective legislation against the sale of impure foods. We do not forget that splendid work is being done in all Northwestern states along this line, but no one has a right to be satisfied until the highest possible degree of efficiency in all vital protective laws is attained, and public sentiment will give our leaders along these lines better support than ever before.

May we not hope that the medical profession, which never takes its hand from the public pulse, will feel the heart-throb of reform now coursing through the body politic as never before?

REPORTS OF SOCIETIES

MINNESOTA ACADEMY OF MEDICINE

A. W. Dunning, M. D., Secretary

The regular meeting of the Academy was held at the West Hotel, in Minneapolis, Wednesday evening, November 1st.

There were 36 members present. The President, Dr. Archibald MacLaren, was in the chair.

Dr. A. W. Abbott reported two anomalous cases of appendicitis.

Dr. Hunter reported a case of barber's itch treated by x-rays with apparent good results.

Dr. Benjamin reported a case operated upon for small tumor removed from the neck. From the clinical history and symptoms described the question was raised by Dr. Beard whether this was not a case of exophthalmic goitre.

Dr. Erdmann referred to a case of double ureter which had come under his observation.

Dr. Nippert reported a case with symptoms like appendicitis, but on the left side. Autopsy revealed the fact that this organ was actually transposed to the left side. Dr. Dunsmoor referred to two cases of similar nature that had come under his care within the past week. Dr Mann discussed Dr. Abbott's case.

The President then gave his address, entitled, "Ultimate Results in the Operative Treatment of Malignant Disease."

The sibject was discussed by Drs. Moore, Dunsmoor, H. P. Ritchie, Beard, Sweetser, Abbott, and Little, and by Dr. MacLaren in closing.

Dr. Louis A. Nelson then presented his inaugural thesis, entitled, "The Management of Acute Suppurative Otitis Media."

The subject was discussed by Drs. W. A. Jones, Dunsmoor, Sweetser, Todd, and Chamberlin, and by Dr. Nelson in closing.

Dr. Gustav Schwyzer, of Minneapolis, was nominated for active membership.

NOTICE

Dr. George M. Gould, 1722 Walnut street, Philadelphia, will be grateful for any trustworthy information as to the methods which have been devised by the blind in overcoming their disability or in gaining a livelihood. Accounts of such lives, anecdotes, references to literature, etc., will be appreciated.

REPORT OF THE MILK COMMISSION OF THE HENNEPIN COUNTY MEDICAL SOCIETY

The value of pure milk is so great, we are sure our readers will be glad to see the report of the Milk Commission of the Hennepin County Society, and for two reasons:

1. This report shows what medical men are doing to improve the health of the community and to prevent sickness.

2. It also shows that when a medical society sets out in earnest to accomplish great things, public-spirited citizens of wealth can be found to spend money freely to bring about the ends sought.

It now remains to be seen what the physicians of Minneapolis will do to make this valuable and beneficent institution self-sustaining. It ought to be made by physicians and citizens to pay a fair profit on the investment, both in justice to Mr. Loring and as an incentive to public benefactors elsewhere to furnish the capital necessary to establish such dairies in every city. The report follows:

Nearly two years ago Henepin County Medical Society appointed a Milk Commission for the special purpose of securing for the county a milk of such special quality as to merit a certificate from our Commission. It was specified that this certified milk should have a constant butter fat content and that the bacteria should never exceed 10,000 per cc. as delivered to the consumer. The laboratory of the State Board of Health was appointed by us to make the necessary laboratory observations. Provision was made for thorough inspection of the dairies and herds by our Commission, and it was stipulated that the cows should be tested periodically for tuberculosis; that new animals should be purchased subject to a satisfactory tuberculin test; and that the animals should be constantly under the supervision of a competent veterinarian in regard to their general health.

Upon our earnest solicitation, Mr. A. C. Loring, of Woodend Farm, Zumbra Heights, Lake Minnetonka, agreed to undertake the difficult task of meeting all our conditions and provide a milk which would merit our certificate. Mr. Loring's buildings are ideal. His herds and plant have been repeatedly and thoroughly inspected by our Commission. The necessary veterinary supervision has been forthcoming. The tuberculin tests have been satisfactory and the daily record of bacterial count has been made by the State Board of Health. Mr. Loring has done all and more than has been requested by the Commission, and has been furnishing, for some considerable period, a milk which contains from two to five thousand bacteria per cc. Its butter fat content is 4.2 per cent, our requirements being from 3.5 to 4.5 per cent. Accordingly, the certificate has been granted to Mr. Loring, after two months of observation.

This milk has been on the market for two months and although the dairy is capable of furnishing 1,000 quarts a day, the maximum demand has not exceeded 250 quarts a day. The cost of producing a milk of this quality is very great, and the sale of the total output of 1,000 quarts a day will simply pay running expenses, exclusive of interest on the investment. Mr. Loring is willing to provide Minneapolis with milk of this quality if it does not involve too great and too prolonged financial loss, but the present output must be increased materially or Mr. Loring feels that he cannot continue the operation of the plant and the opportunity at present available will be lost to Minneapolis.

We feel that the evident failure of the citizens of Minneapolis to appreciate a milk supply which is satisfactory in every particular is due to the fact that they are not fully informed. As physicians, therefore, it becomes our duty to instruct the public as to the importance of supporting an enterprise which was undertaken on the request of the medical profession of Minneapolis and voiced by the Hennepin County Medical Society.

Full particulars may be obtained by addressing Woodend Farm, Zumbra Heights, Lake Minnetonka, or the Minneapolis office, which is located at 1530½ Nicollet Ave.

L. A. Nippert, M. D.
Chairman.

Lester W. Day, M. D.
Secretary.

NEWS ITEMS

Dr. E. McEssy has located at Lankin, N. D.,

Dr. D. F. Wood, of Hanska, has moved to Wichita, Kas.

Dr. Franklin Shreve, of Sioux Falls, S. D., died last month.

Dr. F. D. Lancaster has moved from Thief River Falls to Lancaster.

Dr. O. R. Nevitt, has moved from Lakefield to South Bend, Washington.

Drs. Sherping and Vigen, of Fergus Falls, have dissolved partnership.

Dr. F. W. Simpson, formerly of Winnipeg, Canada, has located at Nassau.

Dr. J. H. Heimark, of Cyrus, a Hamline graduate, has moved to Hope, N. D.

The Budd Hospital, of Two Harbors, will establish a branch hospital at Beaver.

Dr. W. W. Johnston who recently sold his practice at Lafayette has located at Cream.

Dr. A. Lind, of Minneapolis, has gone to Cuba for the winter, accompanied by his family.

Dr. W. S. Frost, a 1904 graduate of the State University, has decided to locate at Kenmare, N. D.

Dr. W. H. Shaver, of Madelia, and Mrs. Olive J. Reimestad, of Minneapolis, were married last month.

Dr. N. A. Allen, a Homeopathic physician of Rochester, and his wife celebrated their fiftieth wedding anniversary last month.

The Wright Memorial Hospital of Fergus Falls is open for the reception of patients. Miss McLean of Boston is the matron.

Dr. W. F. Hoffman, a 1904 graduate of the State University, has accepted a position as assistant in the Budd Hospital at Two Harbors.

The Warren Hospital Association, of Warren, is meeting with much encouragement and its handsome building will be completed this winter.

The loss in the recent fire on St. Raphael's Hospital building, St. Cloud, has been appraised at $19,300. This does not include the loss on the contents.

Dr. Leda Stacy, of Rochester, who received a certificate at the October State Board examinations, has received an appointment in the Children's Hospital of San Francisco, Cal.

"Drs." Pittman (Mary E.) and Goodfellow, of Aberdeen, S. D., whose partnership was noticed in our last issue, are osteopaths, which, of course, we did not know when the notice was written.

St. John's Hospital, of Lake City, made its third annual report last month. The receipts for the year were $5,009, and the number of patients admitted was 254, and 100 patients were treated outside of the hospital.

The Mower County Medical Society, at its meeting last month, elected the following officers: President, Dr. Homer F. Pierson, Austin; vice-president, Dr. Fannie K. Fiester, Austin; secretary, Dr. C. C. Leck, Austin; treasurer, Dr. E. H. W. Rodger, Austin.

Dr. W. C. Voigt, of Stillwater, died on the 3d inst., after a brief illness. Dr. Voigt graduated from the University of California in 1879.

Dr. John Knight, who recently gave up practice at Sebeka, will do missionary work in Ottertail county for the M. E. Church, and also practice medicine, residing at Ottertail City.

The Red River Valley Medical Society held its quarterly meeting last month at Crookston. The following were elected officers: President, Dr. M. McKinnon, Fosston; vice-president, Dr. J. S. Kjelland, Crookston; secretary, Dr. Theodore Bratrud, Warren; member of House of Delegates, Drs. G. S. Wattam and Warren; Dr. H. Holte, Crookston, alternate.

The Henepin County Graduate Nurses' Association is doing excellent work in its efforts to raise the standard of nursing, while not forgetting the social side of organization. Last month the new president, Miss Edith Rommel, entertained her official staff, composed as follows: First vice-president, Miss Cora Smith; second vice-president, Miss Carrie Rankillcur; secretary, Mrs. C. A. Roberts; treasurer, Miss Elva Bosworth; credential committee, the Misses Bertha Erdmann, Mary Forbes, Martha Fairley; program committee, the Misses Marie Jamme, Lena Christensen, Cora Blachley, Reginald Grenager, and Anna McKinney.

At the October meeting of the North Dakota State Board of Medical Examiners the following twenty-seven physicians received certificates:

Edward Hagen, Emerado; Dan H. Bath, Oshkosh, Wis.; John E. Caldwell, Black Duck, Minn.; T. J. Caldwell, Black Duck, Minn.; H. M. Ehrenfeld, Anamoose; C. E. Bilstad, Cambridge, Wis.; Roderick Brown, McClusky; Gus. J. McIntosh, Webster; A. Torland, Underwood; P. K. Sarheim, Carpio; J. Van Houten, Valley City; John Stevens, Belgrade, Minn.; J. A. McKay, Langdon; Olaf Bentzen, Grand Forks; U. F. Bush, Fargo; K. Henrik Schanske, Portland; J. Earl Else, Cayuga; V. E. Thomas, Rolette; T. W. Collinson, Maxbass; Thos. Eltum, Minneapolis, Minn.; Louis Ramaley, St. Paul, Minn.; H. C. P. Norris, Buford; Hugh S. Wilson, Bathgate; H. O. Hagen, New Richland, Minn.; C. B. Howard, Hope; A. G. Maercklim, Ashley.

FOR SALE

About 30 standard books, a good outfit of surgical instruments, an obstetrical case, galvanic and faradic batteries, and a Yale chair, almost new, all valued at $300, will be sold for $120; or any part of the list will be sold separately. Address Mrs. Elizabeth Murphy, Anoka, Minn.

PRACTICE FOR SALE

I have decided to take up special work in medicine, and thereafter locate in a large city. For that reason, I will sell my drug-store, located in Minnesota, to the physician that will succeed me in practice. I am the only physician here, and own the only drug-store in town. Stock, fixtures, soda-fountain, etc., will invoice about $2,500. It is a splendid opportunity for a physician that wants to do general practice, and have an extra income from a drug-store—a money-maker from the start. Population 450, with a large tributory territory, immensely populated. For further particulars, Address "S. L.," care of this journal.

PRACTICE FOR SALE

A good opening and practice worth $4,000 a year will be sold to the right man. A few office fixtures for sale. Poor health is the reason for leaving. Address A, care of this journal.

POST-GRADUATE WORK

Doctor: If you want practical post-graduate work during the fine season in the delightful city, write for particulars, to New Orleans Polyclinic, P. O. Box 797.

POSITION WANTED

A young experienced physician desires position as assistant to a good man, preferably in Minneapolis. Address R, care of this journal.

PHYSICIANS LICENSED AT THE OCTOBER (1905) EXAMINATION TO PRACTICE IN MINNESOTA.

We publish this list in this form at the request of the State Board of Medical Examiners, in order that the names may be pasted in the Official Register, copies of which are sent free by the Board to anyone who applies for same and remits five cents to pay the postage.

Ahrens, A. E. (H); Hahnemann, Chicago, 1904; October 1905..St. Paul, Minn.
Adams, E. C. (H); Hahnemann, Phil., 1886; October 1905..Minneapolis, Minn.

Burnap, W. L. (R); Rush Med. Col., 1901; October 1905.....Pelican Rapids.

Doxey, G. L. (H); Hahnemann, Chi., 1905; October 1905....Boyne City, Mich.
Doms, H. C. A. (R); Kansas City Med. Col., 1905; October, 1905..Woodstock.

Grawn, F. A. (R); Rush Med. Col., 1896; October, 1905.....Munsing, Mich.
Ground, W. E. (R); Missouri Med. Col., 1881; October 1905...Superior, Wis.

Johnson, Henriette A. (R); Col of P. & S., Chi., 1905; Oct., 1905..Minneapolis.

Kinnear, T. J. (R); Northwestern, Chi., 1904; October, 1905.....Eveleth.
Koltes, F. X. (R); Rush Med. Col., 1903; October, 1905.....Rockford, Ill.
Krulish, Emil (R); George Wash. Uni., 1905; October, 1905....St. Ansgar, Ia.

Ogg, J. J. (R); Barnes Med Col., 1903; October, 1905....Minneapolis, Minn.

Phillips, J. G. (R); Northwestern, Chi., 1905 October, 1905.....Northfield.
Plonske, C. J. (R); Col. of P. & S., Chi., 1905; October 1905.....Bancroft, Ia.
Plummer, H. W. (R); Keokuk Med Col., 1905; Oct., 1905 Spring Valley.

Schmidt, K. H. (R); Northwestern, Chi., 1903; October, 1905.St. Anthony Park.
Stacy, Leda J. (R); Rush Med. Col., 1905; October, 1905.....Rochester.
Smith, A. E. (R); Uni. of Minn., 1905; October 1905.....Minneapolis, Minn.
Slocumb, H. H. (R); Col. of P. & S., Chi., 1905; October 1905.....Mazeppa.
Stevens, R. G. (R); Col. of P. & S., Chi., 1905; October 1905.....Brewster.

Tyrrell, J. B. (R); Rush Med. Col., 1902; October, 1905.....Alta, Ia.

Wood, H. G.(R); McGill Uni., 1904; October, 1905.....Blooming Prairie.
Wolf, M. C. (R); Col. of P. & S., Chi., 1898; October, 1905.....Chicago, Ill.
Watson, A. McL. (R); Western Med. Col., Ontario, 1905; Oct., 1905..Royalton.
Whyte, P. D. (R); Col of P. & S., Chi., 1902; October, 1905.....Goodhue.

THE JOURNAL
OF THE
MINNESOTA STATE MEDICAL ASSOCIATION
AND
THE NORTHWESTERN LANCET

VOL. XXV DECEMBER 1, 1905 No. 23

TRANSACTIONS OF THE MINNESOTA STATE MEDICAL ASSOCIATION

THIRTY-SEVENTH ANNUAL MEETING

1905

OFFICERS AND COMMITTEES—1905

OFFICERS

PRESIDENT
CHARLES H. MAYO, M. D. . . . Rochester

FIRST VICE-PRESIDENT
DAVID N. JONES, M. D., ...Gaylord

SECOND VICE-PRESIDENT
THEODORE BRATRUD, M. D. . . . Warren

THIRD VICE-PRESIDENT
SAMUEL H. BOYER, M. D., . . . Duluth

SECRETARY
THOMAS McDAVITT, M. D., ... St. Paul

TREASURER
RICHARD J. HILL, M. D., ... Minneapolis

COUNCILOR—FIRST DISTRICT
E. A. HENSEL, M. D., (1 year) . . . Alexandria

COUNCILOR—SECOND DISTRICT
W. COURTNEY, M. D., (2 years) . . . Brainerd

COUNCILOR—THIRD DIST.—AND PRES. OF COUNCIL
W. S. FULLERTON, M. D., (2 years) . St. Paul

COUNCILOR—FOURTH DISTRICT
F. A. KNIGHTS, M. D., (1 year) . . Minneapolis

COUNCILOR—FIFTH DISTRICT
H. M. WORKMAN, M. D., (2 years) . . . Tracy

COUNCILOR—SIXTH DISTRICT
A. E. SPALDING, M. D., (3 years) . . . Luverne

COUNCILOR—SEVENTH DISTRICT
F. A. DODGE, M. D., (1 year) Le Sueur

COUNCILOR—EIGHTH DISTRICT
A. O. BJELLAND, M. D., (3 years) . . Mankato

COMMITTEES

COMMITTEE ON SCIENTIFIC WORK

JAMES E. MOORE, M. D. . . . Minneapolis
HARRY A. TOMLINSON, M. D., . . . St. Peter
THOS. McDAVITT, M. D., ... St. Paul

COMMITTEE ON PUBLIC POLICY AND LEGISLATION

ARTHUR SWEENEY, M. D., ... St. Paul
WILLIAM H. ROWE, M. D., ... St. James
WARREN L. BEEBE, M. D., ... St. Cloud
THE SECRETARY Ex-officio
THE PRESIDENT Ex-officio

COMMITTEE ON NECROLOGY

JOHN H. JAMES, M. D. Mankato

MEMBERS OF THE HOUSE OF DELEGATES OF THE AMERICAN MEDICAL ASSOCIATION

Delegates

FOR ONE YEAR

HARPER M. WORKMAN, M. D., . . . Tracy

FOR TWO YEARS

JOHN T. ROGERS, M. D., ... St. Paul

Alternates

FOR ONE YEAR

ALFRED E. SPALDING, M. D., . . . Luverne

FOR TWO YEARS

JAMES B. McGAUGHEY, M. D. . . . Winona

Roster of the House of Delegates

Societies.	Delegates	Alternate
Blue Earth	G. R. Curran, Mankato	J. S. Holbrook, Mankato
Blue Earth Valley	W. J. Richardson, Fairmont	
Brown-Redwood	G. R. Pease, Redwood Falls	L. A. Fritsche, New Ulm
Central Minnesota	H. C. Cooney, Princeton	D. K. Caldwell, New Ulm
Chisago-Pine	C. O. Hertzman, Lindstrom	Oscar Stenberg, North Branch
Clay-Becker	D. C. Darrow, Moorhead	E. W. Humphrey, Moorhead
Freeborn	O. A. Burton, Albert Lea	J. P. Von Berg, Albert Lea
Goodhue	K. Gryttenholm, Zumbrota	
Hennepin	A. W. Abbott, Minneapolis	J. W. Little, Minneapolis
"	F. A. Dunsmoor "	L. A. Nippert, "
"	G. G. Eitel "	C. G. Weston, "
"	D. O. Thomas "	H. B. Sweetser, "
"	A. B. Cates "	A. J. Murdock "
Houston-Fillmore	F. A. Drake, Lanesboro	W. B. Grinnell, Preston
Kandiyohi-Swift	C. Johnson, Wilmar	
Lyon-Lincoln	A. J. Cox, Tyler	W. H. Valentine, Tracy
McLeod	P. E. Sheppard, Hutchinson	E. E. Barrett, Glencoe
Meeker	J. W. Robertson, Litchfield	
Mower	A. E. Henslin, Le Roy	W. W. Freeman, Grand Meadow
Nicollet	Geo. F. Merritt, St. Peter	D. M. Graham, Le Seuer
Olmsted	A. W. Stinchfield, Rochester	
Park Region	O. Th. Sherping, Fergus Falls	O. M. Haugen, Fergus Falls
Ramsey	B. Foster, St. Paul	E. F. Geer, St. Paul
"	J. L. Rothrock "	Fredk. Leavitt "
"	Knox Bacon "	Wm. Davis "
Red River Valley	C. E. Dampier, Crookston	H. Holte, Crookston
Renville-Chippewa, etc.	A. G. Stoddard, Fairfax	C. E. Rogers, Montevideo
Rice	F. R. Huxley, Fairbault	F. S. Warren, Fairbault
Scott-Carver	John Landenberger, New Prague	
Southwestern	F. R. Weiser, Windom	
St. Louis	C. A. Stewart, Duluth	
	C. F. McComb "	
Stearns-Benton	Geo. E. Malloy, St. Cloud	W. L. Beebe, St. Cloud
Steele	A. B. Stewart, Owatonna	J. W. Andrist, Ellendale
Upper Mississippi	J. J. McKinnon, Wadena	L. M. Roberts, Little Falls
Wabasha	W. F. Wilson, Lake City	W. T. Adams, Elgin
Watonwan		
Waseca	D. S. Cummings, Waseca	J. F. Lynn, Waseca
Washington	F. G. Landeen, Stillwater	E. E. Wells, Stillwater
West Central	C. R. Christenson, Starbuck	
Winona	J. W. Scott, St. Charles	G. T. Tweedy, Winona
Wright	E. Y. Chilton, Howard Lake	T. J. Catlin, Delano

Place of Next Meeting will be

MINNEAPOLIS

Wednesday, June 20th, 1906

Proceedings

OF

The House of Delegates

WEDNESDAY, MAY 31, 1905

The House of Delegates was called to order by the president, Dr. J. W. Bell, of Minneapolis, in the rooms of the Ramsey County Medical Society, at two o'clock in the afternoon.

On motion of Dr. H. M. Workman the reading of the minutes of the previous meeting was dispensed with.

The roster of delegates entitled to seats in the House was then read by the secretary (see page 488).

After roll-call by the secretary, Dr. R. J. Hill, treasurer, submitted his annual report as follows:

R. J. HILL, Treasurer, in Account with

Minnesota State Medical Association

Dr.

1904.	To balance on hand June 1st	$2,876.17
June 4.	From Thos. McDavitt, Additional Ramsey Co.	14.00
June 4.	From Thos. McDavitt, Additional Hennepin Co.	10.00
June 2.	Jacob Karn, dues 1902	3.00
June 4.	Thos. McDavitt, Brown-Redwood Co.	4.00
June 25.	Thos. McDavitt, Brown-Redwood Co.	4.00
June 25.	Thos. McDavitt, Kandiyohi-Swift Co.	2.00
July 5.	Chas. Bolsta for M. L. Ransom	2.00
July 29.	D. F. Wood, Heanska (Brown-Redwood)	2.00
Aug. 3.	Thos. McDavitt for Winona Co.	4.00
Sept. 19.	Goodhue Co.	6.00
Sept. 19.	Blue Earth Co.	6.00
Sept. 19.	Chisago-Pine Co.	8.00
Oct. 14.	Goodhue Co., G. N. Hewitt	2.00
Oct. 26.	Thos. McDavitt for Chisago-Pine Co.	8.00
Dec. 1.	Thos. McDavitt for St. Louis Co.	8.00
Dec. 28.	Thos. McDavitt for Watonwan Co.	6.00
1905—		
Feb. 28.	For Nicollet Co., N. H. Darling	2.00
Feb. 28.	For Nicollet Co., N. H. Darling	28.00
Feb. 28.	Washington Co.	30.00
Feb. 28.	Chisago-Pine Co.	32.00
Feb. 28.	Steele Co.	18.00
Mar. 14.	Thos. McDavitt for Renville-Chippewa, Lac qui Parle and Yellow Medicine	54.00
Mar. 14.	Thos. McDavitt for Scott-Carver Co.	24.00
Mar. 14.	Thos. McDavitt for McLeod Co.	28.00
Mar. 16.	Thos. McDavitt for Clay-Becker Co.	28.00
Mar. 16.	Thos. McDavitt for Red River Valley Society	72.00
Mar. 22.	Thos. McDavitt for St. Louis Co.	112.00
Mar. 22.	Thos. McDavitt for Goodhue Co.	12.00
Mar. 22.	Thos. McDavitt for Wabasha Co.	24.00
Mar. 27.	Thos. McDavitt for Rice Co.	40.00
Mar. 27.	Thos. McDavitt for Stearns-Benton Co.	30.00
Mar. 27.	Thos. McDavitt for Waseca Co.	16.00
Mar. 27.	Thos. McDavitt for Winona Co.	42.00
Mar. 27.	Thos. McDavitt for Freeborn Co.	28.00
Mar. 30.	Thos. McDavitt for Goodhue Co.	6.00
Mar. 30.	Thos. McDavitt for Scott-Carver Co.	2.00
Apr. 1.	N. E. Chapman for Meeker Co.	18.00
Apr. 1.	Thos. McDavitt for Kandiyohi-Swift Co.	18.00
Apr. 1.	Thos. McDavitt for St. Louis Co.	6.00
Apr. 1.	Thos. McDavitt for Clay-Becker Co.	4.00
Apr. 3.	Thos. McDavitt for Hennepin Co.	404.00
Apr. 3.	Thos. McDavitt for Ramsey Co.	240.00
Apr. 3.	Thos. McDavitt for Park Region District	42.00
Apr. 3.	Thos. McDavitt for Olmsted Co.	30.00
Apr. 3.	Thos. McDavitt for Sibley Co.	14.00
Apr. 3.	Thos. McDavitt for Renville-Chippewa Co.	10.00
Apr. 3.	Thos. McDavitt for Stearns-Benton Co.	12.00
Apr. 3.	Thos. McDavitt for Chisago-Pine Co.	2.00
Apr. 3.	Thos. McDavitt for St. Louis Co.	2.00
Apr. 4.	Thos. McDavitt for Upper Mississippi Valley Society	76.00
Apr. 4.	Thos. McDavitt for Blue Earth Co.	56.00
Apr. 4.	Thos. McDavitt for Red River Valley.	2.00
Apr. 4.	Thos. McDavitt for Park Region Society	2.00
Apr. 5.	Thos. McDavitt for Brown-Redwood Co	10.00
Apr. 10.	Thos. McDavitt for Southwestern Society	40.00
Apr. 10.	Thos. McDavitt for West Central Society	28.00
Apr. 10.	Thos McDavitt for Wright Co.	30.00
Apr. 10.	Thos. McDavitt for Goodhue Co.	6.00
Apr. 10.	Thos. McDavitt for Renville-Chippewa Co.	4.00
Apr. 10.	Thos. McDavitt for Renville-Chippewa Co.	2.00
Apr. 10.	Thos. McDavitt for Olmsted Co.	4.00
Apr. 11.	Thos. McDavitt for Olmsted Co.	2.00
Apr. 11.	Thos. McDavitt for Houston-Fillmore Co.	24.00
Apr. 17.	Thos. McDavitt for Mower Co.	36.00
Apr. 17.	Lyon-Lincoln Co.	30.00
Apr. 19.	From Thos. McDavitt for Stearns-Benton Co.	2.00
Apr. 21.	From Thos. McDavitt for Mower Co.	6.00
Apr. 24.	From Thos. McDavitt for Goodhue Co.	6.00
Apr. 24.	From Thos. McDavitt for Lyon-Lincoln Co.	2.00
Apr. 25.	From Thos. McDavitt for Olmsted Co.	2.00
May 3.	From Thos. McDavitt for Blue Earth Co.	2.00
May 3.	From Thos. McDavitt for Park Region.	12.00
May 4.	From Thos. McDavitt for Central Minn. Dist. Society	16.00
May 10	From Thos. McDavitt for Brown-Redwood Co.	6.00
May 11.	From Thos. McDavitt for Brown-Redwood Co.	2.00
May 12.	From Thos. McDavitt for Washington Co.	2.00
May 15.	From Thos. McDavitt for Blue Earth Co.	2.00
May 18.	From Thos. McDavitt for Upper Mississippi Valley Society	6.00
May 18.	From Thos. McDavitt for Renville-Chippewa Co.	6.00
May 18.	From Thos. McDavitt for Lyon-Lincoln Co.	2.00
May 20.	From Thos. McDavitt for Park Region District Society	6.00
May 23.	From Thos. McDavitt for Red River Valley Society	8.00
May 23.	From Thos. McDavitt for Southwestern Society	20.00
May 23.	From Thos. McDavitt for St. Louis Co.	6.00
May 23.	From Thos. McDavitt for Winona Co.	2.00
May 23.	From Thos. McDavitt for Mower Co.	4.00
		$4,867.28

R. J. HILL, Treasurer, in Account with

Minnesota State Medical Association

Cr.

1904—		
June 4.	To hall rent Annual Meeting	$80.00
June 4.	To signs for Executive Committee	4.50
June 4.	A. G. Long, stenographer, reporting	50.00
June 4.	To Executive Committee, express	1.24
June 4.	Whitehead & Hoag Co., badges, Executive Committee	18.00
June 6.	Ida Bulove, stenographer, Secretary	6.00
June 22.	Thos. McDavitt, additional salary ordered	200.00
June 23.	N. W. Bank, expense A. H. Ferguson.	14.75
June 25.	Brown-Treacy-Sperry Co., registers for Secretary	7.45
June 25.	Chas. V. Hennsaker, Treas. bond	15.00
June 25.	A. O. Bjelland, Mankato Council	6.80
June 25.	F. A. Dodge, Le Sueur Council	9.00
June 25.	E. A. Hensel, Alexandria, Council	24.35
June 25.	H. M. Workman, Tracy, Council	25.75
June 25.	S. P. Reese, Chairman Sec.	13.99
June 25.	R. C. Dugan, Eyota, Chairman Sec.	10.00
July 5.	W. Courtney, Executive Council	3.00
July 6.	A. Bulove, stenographer, Secretary	8.00
July 12.	A. G. Long, transcribing report Annual Meeting	103.00
July 16.	Thos. McDavitt, Secretary	5.00
July 26.	A. Bulove, stenographer for Secretary.	8.00
July 29.	G. N. Cunningham Co., envelopes, Secretary	35.30
Sept. 19.	N. W. Lancet, 1,000 Transactions	733.40
Sept. 19.	Miss A. Bulove, stenographer for Secretary	10.00
Sept. 19.	G. N. Cunningham Co., envelopes, Secretary	3.00
Sept. 22.	N. W. Lancet, postage on Transactions	134.12
Oct. 3.	N. W. Lancet, 500 By-Laws and Constitutions, 100 Rst	14.00
Oct. 6.	A. Bulove, stenographer for Secretary	10.00
Oct. 14.	G. N. Cunningham Co., 500 letterheads, 1.000 requests to fill out members' cards Secretary	6.50
Nov. 2.	A. Bulove, stenographer for Secretary	8.00
Dec. 1.	Exchange Blue Earth	.10
Dec. 1.	A. Bulove, stenographer for Secretary	8.00
1905—		
Jan. 5.	Miss A. Bulove, stenographer for Secretary	8.00
Feb. 2.	Miss A. Bulove, stenographer for Secretary	8.00
Feb. 13.	Thos. McDavitt, stamps, etc	5.00
Mar. 8.	Miss A. Bulove, stenographer for Secretary	8.00
Mar. 13.	Remington Typewriter Co., for Secretary	1.75
Mar. 24.	J. A. Schlener, 2 letter-clips, Gopher file for Treasurer (Cash)	.95
Mar. 27.	First National Bank, draft by Secretary. This is order to G. N. Cunningham for notice of dues for Secretary	2.50
Apr. 1.	Miss A. Bulove, stenographer for Secretary	8.00
May 3.	N. W. National Bank (A. Bulove)	8.00
May 3.	Peters & Bailey, 1,000 envelopes, 1,000 programs, Secretary, 1,000 note-heads, Secretary	37.75
May 24.	Mary Curry, stenographer for this Report	1.50
May 24.	R. J. Hill, Treasurer, salary	100.00
May 24.	Thos. McDavitt, Secretary, salary	300.00
		$2,065.70
	Balance on hand	2,801.58
		$4,867.28

The Secretary: I wish to say that this report has been audited by a committee of the Council, and has been found correct.

On motion of Dr. L. A. Nippert, the report of the treasurer was adopted.

The Secretary, Dr. Thos. McDavitt, submitted the following report:

DEPORT OF SECRETARY.

DR. THOS. MCDAVITT, ST. PAUL

The secretary has to report the formation of only two societies during the year, the Dodge County Society and the Central Minnesota Society, the latter consisting of Mille Lacs, Kanabec, and Isanti counties. These societies are constituted with a membership of only nine or ten, but they give every evidence of good work. The Sibley County Medical Society has disbanded, practically, and joined the Renville and Chippewa County Society, making that a very strong society, consisting of some forty-eight or fifty members. I would like to suggest to the members of that society that two more members would give them another member in the House of Delegates. I hope they will get the two next year.

The Association starts out the year with a membership at present, which will be in our next roster, of 948 members. This is an increase in the membership of about one hundred, there being 892 reported last year.

The secretary would state that the working under the re-organization plan will be ideal when once we become accustomed to it. The increased work that is done in the scientific section of the State Association, by taking out the executive part of the work and putting it into the hands of the House of Delegates, may be readily understood when we remember the discouraging experiences we used to have under the old scheme.

On motion of Dr Burnside Foster the report of the secretary was received and ordered placed on file.

The Chairman: We will now listen to the report of the committee appointed to draft a protest to be forwarded to the Board of Regents of the State University relative to the entrance requirement for students.

Secretary McDavitt: The president last year in his address mentioned the fact that the Board of Regents had seen proper to make a different requirement for entrance to the medical department of the homeopathic school from that of the regular medical department. Heretofore the requirement of the medical department has been simply a high school diploma. They saw proper at the request, I believe, of our medical department a year and a half ago to pass a resolution fixing the requirement necessary to get into the regular medical department at one year in the University. They also propose to leave the requirement for entrance to the homeopathic depart-

ment at a high school diploma, claiming that by leaving the homeopathic department with this lower grade they would get more students in the homeopathic department, and in consequence of this state of affairs the president advised that a committee be appointed to draft a resolution protesting against this difference, and at the same time endorsing the action with reference to the increased requirements of the regular department. The following is the protest as sent to the president of the University.

To the Board of Regents of the University of the State of Minnesota:

The Minnesota State Medical Association would respectfully present the following protest:

The State Medical Association expresses its approval of the higher standard of preliminary requirements applying to the medical department, but our association looks with much disfavor upon the fact that your body saw proper to exempt the homeopathic department from the increased standard. At the present time, as we understand, a high school diploma only is required to enter the homeopathic department, while one year's university training is added for the regular Medical Department. The State Medical Association feel that the existence of two educational standards for entrance into the Medical Department of the same school is a condition without precedent. In the history of educational institutions our Association has always favored increasing the standard. From 1887, when our first medical law was effective, until the present time, Minnesota has been the leader for the increase of medical requirements, until at the present time four years, of at least six months each, in a medical college is the minimum required before an examination for a medical license is permitted. This standard was only reached through the interest and insistence of our medical organization. After having thus far used our influence and best endeavors in an effective manner, it appears unfortunate that your board has deemed it proper to weaken the effect of a number of years' struggle.

The preliminary standard is entirely in your hands, and until this is raised nothing further can be required as to professional minimum standard previous to state examinations.

As we are informed, the reasons given for the standard's remaining at high school requirements for the Homeopathic Department is the hope that their standard being lower might bring more students to this department.

On reconsideration it is to be hoped that your Board will recognize that it is an unfortunate decision, as it panders to the mercenary instead of the scholarly instincts. If this department cannot be supported on the same high standard that is required of the medical department proper, the fault is not with the requirements.

To build up a Homeopathic school at the expense of the regular Department of Medicine, is both unwise and unjust. Please do not understand that we ask that the preliminaries of the regular Medical Department be lowered to the standard now applicable to the Homeopathic Department. Preferably, we should desire that the standard be further increased. Our protest only covers the fact of not raising the standard equally.

We desire to submit this matter to a rehearing, feeling assured that your bearing the burdens of dictating policies, scholarly and otherwise of a great university, will be better compensated by increasing scholarly attainments than by initiating a policy which is so unfortunate.

The State Medical Association meets in St. Paul Thursday and Friday of this week, June 1st and 2d, and we should be glad to refer to its executive body any communication you see proper to make in regard to this matter.

Respectfully referred,

THOS. MCDAVITT,
WALTER COURTNEY,
W. H. ROWE,
Committee.

Dr. Burnside Foster: Has any reply been received to that communication?

The Secretary: No, sir; the meeting of the Regents was called for today.

The Chairman: That being the case, it would call for no action at this time by the House of Delegates.

The Chairman: We will now listen to the report of the Council to the House of Delegates.

REPORT OF THE COUNCIL

DR. W. S. FULLERTON, CHAIRMAN, ST. PAUL

I wish to report that the accounts of the secretary and treasurer have been audited by a committee from the Council and found correct.

The Council also wishes to make a recommendation to the House of Delegates relative to the minimum membership of a county society. The secretary of the Association has a report from one society in this state giving only three members upon its roster, and the three members fill the offices of the society, and the Council recommends to the House of Delegates that a minimum membership should be fixed which must not fall below five in order that the society may retain its charter.

Regarding the amendment of the charter, the matter was referred to Messrs. Young & Lightner, attorneys in this city.

It was then decided that the Council should ask for authority to have Messrs. Young & Lightner draw up suitable articles of incorporation to be acted upon at this meeting.

The chairman: I think it would be better to take up the suggestions or recommendations of the council one by one and wait until we reach this particular point before we take it up. I would suggest that in considering this report we take it up, not as a whole, but take up the several points separately.

Dr. W. H. Wilson: I move that the recommendation by the Council that the minimum number of any county society be placed at five be adopted.

Dr. G. A. Chilgren: If this is adopted some provision must be made so that they may belong to some other society in that district, otherwise they would be debarred from becoming members of the state organization. Unless the by-laws provide for that the motion is not complete.

The Chairman: The by-laws provide for that contingency.

The motion offered by Dr. Wilson was then put to a vote, and prevailed unanimously.

Dr. D. O. Thomas: In order that these recommendations may be given the proper consideration each member ought to have a copy in his hands.

Dr. Fullerton: I can only read the recommendations. I have several copies, but we have no printed copies to place in the hands of members. It will perhaps refresh your memories if I read this again. The matter of incorporation is something we have not reached yet. I will read the proposed amendment to Chap. IX, Sect. 15 of the by-laws:

AMENDMENT TO BY-LAWS, CHAPTER IX.:

Sec. 15. It is hereby declared that the acceptance and performance, either or both of them, whether in person or by proxy, of any of the duties pertaining to the practice of medicine or surgery under contract or stipulation, written, verbal or otherwise, for any fraternal society, insurance company, club, or corporation which agrees to furnish to its members or patrons medical or surgical attendance, or requires its physicians to furnish such services to its members or patrons, for a fee or remuneration less than the minimum fee charged for like services in practice in that locality is unprofessional practice and such practice on the part of any member of the profession shall constitute sufficient ground for his rejection by or expulsion from any affiliated county society.

Nothing in this section, however, shall be construed as applying to government, state, county, or municipal institutions; nor to legitimate hospitals or dispensaries; nor to the chief surgeon of railway systems, shipping or mining companies, or their assistants; nor to prevent any physician or surgeon from extending his gratuitous services to the poor.

Sec. 16. All county societies in affiliation with this Association are required to incorporate this section 15 in their By-Laws.

Sec. 17. Any affiliated county society admitting to or retaining in membership one who is guilty of the aforesaid unprofessional practice shall have its charter revoked, and shall be expelled from this association.

Dr. H. M. Workman moved that the amendment as offered be adopted.

Dr. F. A. Knights: I was going to inquire as to the wording of that amendment. Do not the words occur in there, "or their assistants under salary?"

Dr. Fullerton: If that is not in there it is an omission.

Dr. Stewart: I would like to know what effect this would have on the railroad surgeons or on county work, whether it would not conflict with the county fee-bill.

Dr. L. M. Roberts: How would that affect county physicians? Nearly every set of county commissioners ask for bids for the work in their county, and the doctors put in bids like carpenters. Sometimes they get four times the regular fees, and sometimes they get only one-fourth of what the work would amount to under the regular fee.

Dr. Burnside Foster: In regard to Dr. Stewart's inquiry, it would seem to me one of the results of the adoption of these amendments to the constitution and by-laws would be to make railroads which have adopted fee-bills which are at variance with the fee-bills in effect make their fee-bills conform to those of the regular fee-bill. It would seem to me the principle underlying the adoption of this amendment is to see that medical men are paid legitimate fees, particularly by corporations. I do not know that any lengthy discussion of this subject is desired or needed at this time, but it is a subject to which I have given a great deal of thought and attention, and I consider it one of the most important things to which the Association can give its attention at the present time. The subject is being agitated all over the country, and although the first movement came from the state of Minnesota, county and state societies of other states have already adopted amendments nearly like the one read. The subject is a vital one, and influences nearly all of us; and while the amendment should not be adopted without due consideration on the part of the members, I hope it will be adopted. Contract work is done in a great many different ways, and it would be perhaps impossible to adopt an amendment that would cover the entire ground, and we must not lose sight of the fact that there are certain conditions under which contract practice is justifiable. There are communities in which there is no licensed physician, except those who have come in to take care of miners and other workingmen, who never pay their bills, anyway, and a medical man could not live were it not for this very feature of contract practice. Of course, in all these cases the Council, which is the final judge in these matters, must decide. I do not think if we adopt the amendments anybody will be hurt in this practice at all, and those men who are now engaged in contract practice will find probably that the same kind of practice will be done, and they will be paid in a different way with a larger fee. Therefore men engaged in professional practice will find that it will be to their advantage: Instead of having the service done for the smallest fee, the corporation must provide an adequate fee, and in that way they will get the best men and secure the best service.

I have heard directly and indirectly from a great many county societies in the state, and I hope those who have written me will take pleasure in expressing their views on the subject.

The Chairman: This is a very important matter and we would like to hear from all who may have a word to say on the subject.

The Secretary: I would like to inquire, in case we are going to pass any legislation of this kind that is so important, if we had not better get our articles of incorporation in shape first, so that such portion of our constitution as this, which is so stringent, should have the legal necessary standing and the sanction of this organization. If we are going to do anything of this kind we want it to be lawful. We do not want to adopt articles of incorporation, and then have them thrown over because they antedate the incorporation of the body.

Dr. W. W. Freeman: I would like to see the thing printed, so that I could sit down and study it, and know just what I am doing. It has been discussed thoroughly in our county and we are thoroughly opposed to contract practice. The paupers of our county have been bid in by a man, and it will not amount to twenty-five cents a visit. I think that ought to be called contract practice, bidding in the pauper practice of the counties bidding in. The commissioners ought to pay a fee.

Dr. Fullerton: The point the doctor mentions cannot be reached because we would conflict with the state law, and for that reason it has been subject to state manipulation.

In regard to what Dr. McDavitt says, regarding this amendment antedating the articles of incorporation, I wish to say that no act of this Association has been legal since the adoption of the constitution, but the attorneys tell me that all that is necessary is to ratify at this meeting what we have previously done. The association will have to go out of business until these new articles of incorporation are adopted, if we are going to wait for that. All that is necessary is to ratify what has been done since 1903. No act is legal that we are doing now.

Dr. F. G. Landeen: If what Dr. Fullerton says, that nothing we do is legal, how can we ratify anything we have done when we have no legal standing now. According to what he says, this is not a legal organization, and consequently it cannot ratify anything. Would it not be necessary to first incorporate before we can ratify any of our acts?

Dr. Fullerton: Our organization is a voluntary society or incorporation, and this meeting can ratify all that has been done in open meeting.

Dr. F. G. Landeen: What is the idea of ratifying the acts of a voluntary body or incorporation?

Dr. W. S. Fullerton: The idea is that we do not need to stop; we can adopt anything, and ratify afterward.

Dr. F. G. Landeen: I do not see how we can adopt anything or ratify anything if we have not taken any legal steps to incorporate, unless we are trying to do something as a voluntary body and continue in that way.

Dr. Burnside Foster: It seems to me we can transact business now, which, although illegal at this time, will be perfectly legal after we have ratified our acts in the open meeting of the Association. It seems to me we can transact now such business as we wish to transact, and then if the Association sees fit to ratify our acts tomorrow or some other time it can do so and thereby make the acts legal.

Dr. W. F. Wilson:: If we adopt the amendment at the present time there is no association which is able to refuse membership to those already members who are under the ban of this contract practice, but my understanding was that there was more doubt,—whether we incorporated or did not, there was more doubt as to those who are not already members. This amendment specifies that we will retain as members no one who is doing that contract practice. Still, legal opinion casts doubt upon our right or ability to reject those already members. My county society instructed me to vote in favor of any amendment that will do away with this contract practice, but I am in doubt whether we can reject any that are now members who continue in that practice.

Dr. W. S. Fullerton: The only way is to have a case come to trial and get a decision from the court. The attorney says that is a remote contingency. There may be some here who have not heard this amendment read, and I will read it again.

Dr. Fullerton then read the amendment again.

Dr. R. C. Dugan: It seems to be perfectly plain that this matter, with other legislation in regard to future members and as much in regard to present members, can be arranged in a satisfactory way. Nothing can be drawn up to cover the case any better than this resolution. It seems this is the best we can do, and if we can do it we want to do it.

Dr. L. M. Roberts: I know it to be a fact that all over the state of Minnesota there are three or four hundred physicians who are doing work for railroad companies, and their compensation consists of transportation,—they have annual passes. Many of them have not had a single bit of work in five years, but they have got their annual passes for five years, and they consider that good remuneration for their work; and there are others that do a great deal of work on that basis. According to this resolution any surgeon in the state would not have a right to accept a pass from a railroad because it would be a contract to do the work for a certain remuneration, that is, for an annual pass. There are surgeons for corporations that do the work for salaries. They do their work for a certain amount of pay and they have found, in making a settlement with the company, that for a series of years what they received amounted to as much or more than would the regular fees. I would like to ask whether you call that contract surgery, and whether you are going to expel a man

from the Association if he is engaged in such practice. I am a railroad surgeon, and I have traveled on passes for years, but I get as much or more out of the company as I would get in fees if they paid me. If there are any railroad surgeons here I would like to hear from them.

Dr. W. S. Fullerton: I think that was the point taken into consideration and of which Dr. Knights spoke. I think the word "salary" was left out on account of the discussion we had. It is a question whether to retain the words, "assistant under salary," or to say "their assistants." Then it would read, "legitimate hospitals or dispensaries or to the chief surgeons of railway and mining companies and their assistants."

Dr. R. C. Dugan: I did not know that there were any railroads in the state that paid their surgeons with passes. All companies pay a splendid fee for work done, and give transportation besides. Railroad passes are not furnished to other employees of the company for remuneration. They are simply furnished to the surgeon so that he may get to the place where his services are required as quickly as possible. The ordinary private citizen cannot ride on a freight train or on an engine, he cannot ride on anything but a passenger train, while the regular employee can ride on anything that comes along. The intention of giving the pass is that the employee may go and come at any time, and it is not in any sense given as a remuneration. I move you, Mr. President, that the words "under salary" be cut out.

Dr. E. A. Hensel: The question has been raised in my district relative to railroad surgeons, and the question was asked at Crookston, whether local surgeons who would come under the construction of this amendment were liable to lose their membership in this Association. I am not quite clear how that is worded, and before I vote on the amendment I would like to know a little more about it. When the Red River Valley Society voted in favor of the amendment I sent down to Dr. McDavitt, and asked him whether the local surgeons would come under the condition of that amendment, and he said he thought they would and they voted in favor of it with that understanding. If they voted in that way I think it is no more than right it should be discussed, and if there are any members of that society here I think they should air their opinions on it.

Dr. A. J. Cox: I am one of those unfortunate fellows who has a pass, and I think that if the amendment that has just been offered is carried it will do away with all this discussion, and it will allow all those who are assistants to the chief surgeon to accept a pass and work for the company without any more trouble, and still be members of the State Association.

Dr. Walter Courtney: I notice that a point has come up, and I do not see how you are going to get around it. "Assistants under salary." I have four assistants in the railroad hospital under pay. They are classed as internes, but they are all assistants. It would be impossible for them to work in any other way. They do not do any case work, and how could you pay them in any other way than by salary? Are these men or any others in a similar position to be barred from membership in this Association? I think not.

Dr. R. C. Dugan: It seems to me that my motion covers the whole thing, and if that word "salary" is wiped out it means the surgeon's assistants. If that is wiped out it leaves the whole thing open. It leaves the local surgeons free. If it is left in it would cover the case of the local surgeon.

Dr. F. A. Knights: I think Dr. Courtney must be laboring under a misapprehension as to this special clause. It is intended to admit hospital internes to the State Association, internes and men working under salaries, but the doctor's motion to strike out the words "under salary" does leave as he says, the thing wide open and our discussion in the Hennepin County Society was to the effect that it would leave it entirely too wide open The objection is directed against men who are doing work for railroads under the railroad fee-bill, which is different from the fee-bill of the county society. That clause "under salary" cut a very important figure in our discussion of this matter, and that clause constitutes a reason why the men who are interested in the alleged work are willing to have this matter go through, because it does away with certain work that we are told has been done by subordinate surgeons of railroads based on a fee-bill less than the fee-bill of the county society. We are not interfering with the men who are working on a given salary, but when they attempt to practice on any other fee-bill they come into competition with the local physicians wherever competition cuts any figure. If we do away with these words "under salary" then we admit all the men who are doing this work, and allow them to do any work they choose, and in this way we discriminate against the local men.

Dr. Burnside Foster: I do not see why men working for railroads should have the smallest reason to object to this amendment, for the simple reason that railroads have got to have their work done, and under this amendment they will have to pay them what their men ask. If the railroad knows it has got to pay fees it will pay them, but at the present time the railroads pay practically no fees, because they can get their work done for nothing.

Dr. John Landerberger: I am one of those unfortunate men who has had a pass for a good many years, but now they talk about a salary and take up this fee-bill Do you think there would be many men in the state who would go to work for a railroad company for hardly anything? They might on a salary offer, but they would not on a fee-bill What would you do with them? That would be the same thing, only one would be a salaried officer and

the other would be a fee officer. It would be the same thing.

Dr. Geo. F. Maloy: A few surgeons in lodge practice who were doing work cheaply when this resolution came up, changed their system to a fee system. Lodge members paid one dollar a year for medical treatment, and some lodges allow a fee or so much per visit, and they based the compensation upon the medical fee-bill.

Dr. D. O. Thomas: I do not know that I have any right to speak, because I do not represent any lodge or any railroad, and this bill would not touch me in any way, but I want to express the opinion that we carry this matter a little too far. I do not believe in compulsory legislation in anything. I think we ought to be a law unto ourselves. Instead of threatening to compel members to do so and so, we ought to pass a resolution that such a thing is disapproved of. We can legislate, but what good does it do if we cannot carry it out? That is the only thing I want to say. I know a good many men like myself whom it does not touch one way or another. I have conversed with men in our own society, and some of them get a good deal of work in this way, and one of them, one of our old veterans, said if this passes he will go out, and another man said he would give up his lodge. I think we are not exactly the representative body to pass this resolution after all. There are some of us here who are advanced in years, and on independent ground, so far as practice is concerned. If we get the opinion of young men in the society we will be more able to know whether they will stay with us. We do not have to cater to anything but young men who have got to get their practice yet, and if we do not cater to them we shall not be able to keep them. If we make our requirements too stiff, we shall keep them out, but if we simply say we disapprove of it, and that such conduct is injurious to themselves and the society and is unfavorably regarded by the society and is considered unprofessional, I think it will have the same effect.

Dr. W. S. Fullerton: I do not like to take up so much time. I think it is as plain to my mind as it is possible to make it. If you will consent to leave off these two words "under salary", it will be broad enough for anybody. We have tried to make the by-laws as broad as possible, and I believe we shall have accomplished it if you consent to the elimination of those two words.

The amendment offered by Dr. Dugan to strike out the words "under salary" was then put to a vote and prevailed unanimously.

The original motion offered by Dr. Workman to adopt the amendment was then put to a vote, and the resolution was unanimously adopted as amended.

On motion of Dr. Fullerton the matter of incorporation was referred to the general assembly to be taken up at the opening of the following morning's session.

Dr. W. F. Wilson: It seems to me that the members of the state association should be notified as soon as possible of the action taken here in regard to contract practice, and that county societies should be notified, and as our county society does not meet again for a long period I would like to have an official notice sent out as soon as possible.

On motion of Dr. Foster, Secretary McDavitt was instructed to have copies of the amendment printed, and mailed to every member of the Association within twenty days.

On motion of Dr. Dugan the House of Delegates adjourned until tomorrow at two o'clock in the afternoon.

THURSDAY, JUNE 1, 1905

Pursuant to adjournment the House of Delegates was called to order by the president, Dr. J. W. Bell, in the library of the Ramsey County Medical Association, at 3:00 o'clock in the afternoon, Thursday, June 1, 1905.

The minutes of the previous meeting were read by the Secretary, and approved.

The roster of delegates entitled to seats in the house was then read by the secretary as follows:

Dr. Thos. McDavitt, as chairman of the committee appointed for that purpose, in regard to protest formulated by the committee and forwarded to the Board of Regents of the State University, read a letter from the president of the University, as follows:

THE UNIVERSITY OF MINNESOTA
MINNEAPOLIS, MINN., May 31, 1905.

Dr. Thomas McDavitt,
St. Paul, Minn.

Dear Sir: Your communication addressed to the board of regents was duly received and laid before the board, and action thereon was taken. The previous action of the board of regents allowed students to enter the College of Homeopathic Medicine for two years with simply a high school training. As the two years have expired, from this time on the requirements for admission to the College of Homeopathy will be the same as to the College of Medicine and surgery, and I presume this will meet your wishes.

Very truly yours,
CYRUS NORTHUP.

Dr. McDavitt: Mr. President, the following resolution has been handed me by a member of our Association, Dr. Sweeney:

Resolved: That a committee of three be appointed by this association to confer with the State Board of Medical Examiners for the purpose of securing the rigid enforcement of the medical law, and a more intimate affiliation between the two bodies,

through which the secretaries of the county societies shall act as censors of all physicians and irregulars practicing in the various counties and districts of the state, shall report all violations of the law to the Secretary of the State and Board of Medical Examiners, and shall assist the Secretary in all prosecutions.

Dr. Fullerton: In explanation of the resolution which has just been read, I would state that Dr. Sweeney, who wrote the same, will read a paper which will explain very fully his meaning, and perhaps it would be well to defer action upon the resolution until tomorrow. It might be wise to defer action until that paper has been read.

Dr. Stoddard: I move that we defer action on that question until we have heard Dr. Sweeney's explanation.

Motion was seconded and carried.

Upon motion of Dr. Workman, it was decided that the secretary be instructed to give an order upon the treasurer for the expenses of the orators of the Association.

Dr. Fullerton: I wish to introduce at this time an amendment to Chap. 7, Sec. 2 of the By-Laws, which has reference to the traveling expenses and the duties of councilors. Now, according to this, each councilor is required once a year to visit all the county societies in his jurisdiction, and he is allowed simply his traveling expenses. It is a sacrifice on his part which the Association should not ask. If it is worth anything to the Association for the councilor to make these visits, the Association should be willing to pay them something. I wish to amend Chap. 7, Sec. 2, as follows:

AMENDMENT TO CHAPTER VII

Sec. 2. Each Councilor shall be organizer, peacemaker, and censor for his district. He shall visit the counties in his district when necessary for the purpose of organizing component societies where none exist, for enquiring into the conditions of the profession, and for improving and increasing the zeal of the county societies and their members. He shall make an annual report of his work and of the condition of the profession of each county in his district at the annual session of the House of Delegates.

The necessary traveling expenses incurred by such Councilor in the line of the duties herein imposed shall be allowed by the House of Delegates on a proper itemized statement; and each councilor shall receive as compensation a per diem of $10.00 while engaged in making his official visits to the counties in his district, but this shall not be construed to include his expenses while attending the annual meeting of the Association.

I have not visited a single county society in my jurisdiction, for to do so is a drain upon my purse, and, furthermore, I do not see the necessity for it As far as I can learn there has nothing come up, and no necessity for the visits.

Dr. Bell: The amendment will remain over until tomorrow, and then be taken up. In the meantime it would be well for the members to have in mind the changes suggested that we may take it up and dispose of it.

Dr. McDavitt: I will now read the recommendation made by our president to the Association this morning in his address, on which he thinks it is necessary for the House of Delegates to take some action.

RECOMMENDATIONS

1. That the American Medical Association be urged to carefully investigate the subject of medical education with the view of bringing about more uniform entrance requirements as well as more uniform laws regulating and prescribing the necessary qualifications to enter upon the practice of medicine in the various states.

2. That some practical plan be devised for the systematic education of people in matters of public health and medical progress.

3. That the American Medical Association be requested to express itself at the coming session upon the question of lodge and contract practice.

4. That our By-Laws be amended so as to provide for a standing Committee on Necrology.

5. That a suitable memorial be prepared for presentation to the family of Dr. J. H. Dunn, and that the proper memorials be drafted concerning other deceased members of the Association for the past year.

6. That the advisability of a state journal be carefully considered, and if deemed advisable, that immediate preliminary steps be taken to establish the same, thereby relieving the Association of the heavy expense entailed by the publication of our transactions in book form.

7. That diligent effort be made to increase the efficiency of our weaker county societies by using every legitimate means to increase the membership; failing in this, union with an adjoining society should be encouraged in order to secure an efficient working organization, thereby rendering representation more uniform and just in the House of Delegates.

Dr. Workman: Mr. President, I move that the president appoint a committee of five to consider the advisability of publishing a journal for this Association.

Dr. McDavitt: This is a matter that is in the hands of the Council absolutely, but I think I can speak for the Council in saying that it is a matter of such gravity that they should be very glad of the offer of the House of Delegates, and it appears to me to be the wisest course to pursue, to appoint a committee of from three to five to take this matter into consideration, and report at our next meeting of the House of Delegates. It is altogether too important a matter to attempt to settle in twenty-four hours, and with the consent of the member who made that reso-

lution, I would like to ask him to include that in the resolution.

Moved and seconded that a committee of three be appointed to report on the matter of an Association journal, at the next annual meeting. Motion prevailed.

On motion the House of Delegates adjourned until 9:00 A. M., Friday, June 2, 1905.

FRIDAY, JUNE 2, 1905—MORNING SESSION

Pursuant to adjournment the House of Delegates was called to order by the president, Dr. J. W. Bell, in the library of the Ramsey County Medical Association, at 9:00 o'clock in the forenoon on Friday, June 2, 1905.

The minutes of the previous meeting were read by the secretary, and approved.

The election of officers for the ensuing year was then taken up, and nominations for the office of president declared in order.

Dr. Dugan: Members of the House of Delegates of the Minnesota State Medical Association, I wish to nominate for the office of president a man with whom I have had fifteen years of the most intimate social, personal, and professional relations, who has been seventeen years a member of this Association, and who has furnished sixteen valuable papers,—a man who, during that time, although plain and unassuming, has done as much as, if not more than, any other man in the medical profession in the United State or the whole world,—a man loved and respected by members of his own local society, which he has helped to make, if you will excuse the seeming egotism, one of the best local societies in the state. I take pleasure in presenting to you the name of Dr. Charles H. Mayo, of the Medical Association, commonly known to us as "Dr. Charley."

The motion was seconded by Drs. Spalding, Stoddard, and others.

On motion of Dr. Burnside Foster the secretary was instructed to cast the unanimous ballot of the Association in favor of Dr. Mayo as president.

Dr. McDavitt: I would like to move, if it meets the approval of the House of Delegates, that the president appoint a committee of two to inform Dr. Mayo of his election, and to bring him in and present him, and let us look at him.

The motion was seconded by Dr. Richardson, and prevailed.

Dr. Dugan and Dr. A. B. Stewart were appointed a committee of two to escort Dr. Mayo into the presence of the House of Delegates. Dr. Mayo was greeted with generous applause, and was introduced to the House by President Bell, as follows:

It gives me great pleasure as your presiding officer, to introduce to the House of Delegates, as president for the ensuing year Dr. Charles H. Mayo.

Dr. Mayo: I thank you very much for the honor conferred upon me, and I shall endeavor to the best of my ability to uphold the dignity of the office of president of this Association, a society that has done as much, in proportion to the number of practitioners in the state, to uphold the practice of medicine in the United States, as any state society in the Union.

Dr. D. N. Jones, of Gaylord, was elected first vice-president.

Dr. Theo. Bratrud, of Warren, was elected second vice-president.

Dr. S. H. Boyer, of Duluth, was elected third vice-president.

Dr. Thos. McDavitt, of St. Paul, was re-elected secretary.

Dr. R. J. Hill, of Minneapolis, unanimously re-elected treasurer.

Dr. A. E. Spalding, of Luverne, and Dr. A. C. Bjelland, of Mankato, were unanimously re-elected Councilors for three years.

Dr. J. T. Rogers, of St. Paul, was elected delegate to the American Medical Association for two years.

Dr. J. B. McGaughey, of Winona, was elected delegate to the American Medical Association as alternate for 2 years.

The president appointed the following committees:

Committee on scientific work:

Dr. Harry A. Tomlinson, St. Peter.

J. E. Moore, Minneapolis.

Dr. Thos. McDavitt, St. Paul.

Committee of Public Policy and Legislation:

Dr. Arthur Sweeney, St. Paul chairman.

Dr. W. L. Beebe, St. Cloud.

Dr. W. H. Rowe, St. James.

Dr. Chas. H. Mayo, Rochester, ex-officio.

Dr. Thos. McDavitt, St. Paul, ex-officio.

Dr. Fullerton: This motion, which I now offer, is in accordance with the recommendation of our president yesterday, on appointing a committee on Necrology. It is to amend Chap. 8, Sec. 1, by adding the words "and Committee on Necrology" following the words "the Committee on Public Policy and Legislation," the Committee on Necrology to consist of a committee of one.

The motion prevailed, and Dr. J. H. James, of Mankato, was appointed the Committee on Necrology.

Dr. G. A. Chilgren: I think we passed over rather lightly the matter of lodge and contract practice. I move that our delegates to the American Medical Association be instructed to take some decisive action in regard to the matter of lodge and contract practice.

The motion prevailed.

Dr. Fullerton: The amendment to Chap. 7, Sec. 2 of the By-Laws, is as follows (See page 456).

Dr. E. A. Hensel: We should not pass over this lightly, I visited every society in my district last year at considerable expense to myself. I do not know that there was anything else in it, but I feel that in some instances I did some good. I think every councilor could do some good by going around

once a year. I think that when you do say "when necessary", it leaves a pretty wide margin. It would be a matter to know when it is necessary and when it is not. As far as getting any information from the society by letter is concerned, you cannot get it. If you do not go there you do not find out anything. If the office of councilor means anything, the councilors should get around at least once a year. If not, cut it out; it is no good. If we are going to do any good in that line let us do it. As far as the expense is concerned, I believe that would be a good amendment. If the Association sees fit to reimburse us in a measure, I think it would be perfectly proper to vote for this amendment; but let us know what we are doing. The councilors should see what they think about it. I do not care for the job of going around visiting the societies, except to meet the boys, as it takes me away from business, and it is hard work. But if we are going to fill the office according to the A. M. A. laws, let us do it; if not, let the office be abolished.

Dr. Fullerton: I think the amendment completely covers the ground. If the county societies are not working in good order,—if they are inclined to die out,—the councilor can find it out. He can keep himself in touch by correspondence with the secretaries. I think we can get answers from the majority of the secretaries of the county societies. The words "when necessary" leave it entirely to the councilor, and those who wish to make their annual visit are at liberty to do so. If we are compelled to make this annual visit, and the $10.00 per visit comes in every time, it amounts, with eight councilors, to about $300.00. There is no sense in spending that amount of money if it is not needed.

Dr. Walter Courtney: I wish to endorse one thing said by Dr. Hensel and Dr. Fullerton. It does not seem to me that the councilor should be restricted. The words "when necessary" should be privileged to do so. I do not believe that any councilor is going to leave home, and go thirty or fifty or a hundred miles to visit some society for the mere purpose of earning $10.00 per day. I believe that every councilor is honest and sincere in his work.

Upon motion the amendment was incorporated in the Chap. 7, Sec. 2, of the By-Laws.

REPORTS OF COUNCILORS

FIRST DISTRICT

Dr. A. E. Hensel, Alexandria

Mr. President and Gentlemen: I have to report that two societies of the First District are doing good work in every particular. They have a good attendance at their meetings, and in my opinion, there is quite an inducement to bring the members out. These societies are the Park Region District and the Red River Valley. The Clay-Becker Society and the West Central Society are in a peculiar position. A few good men up there are trying to do good work. It is almost impossible for half of the members to get to the meeting without missing two days, and it is impossible to arrange it any other way. The West Central Society labors under another difficulty, and that is the large society north of the West Central over in the valley. That society is simply swallowing up everything. Of course, I know they are doing good work in that society, but it seems too bad that the West Central Society should be the sufferer. If that could be adjusted in some way satisfactory to all, I think it would be a benefit.

I should like to say one thing, which I am not sure should go into this report, and that is, the secretary of each society, in my opinion, should be appointed ex-officio member of the House of Delegates. It is the hardest thing in the world for councilors to get a response from secretaries, as a rule, and I think the state secretary will bear me out in that. If each secretary was an ex-officio member of the House of Delegates, he would get an insight in the workings of the organization which he cannot get by book out in the rural districts. It seems to me that the secretary should send the councilor a program of each meeting, and also send him, immediately after the election of officers, a list of all officers. I have found it hard to correspond as I would not know who the secretary is four months after the election. I do not know what to do to bring these things about. Those who have had more experience in this line can be of great assistance to us in trying to carry on the work.

SECOND DISTRICT

Dr. Walter Courtney, Brainerd

I have very little to report. I am sorry to say I did not get around over my territory last year. I did not hear of any disturbances or friction requiring my services, but this year I shall certainly get out more. As Dr. Hensel says, there is a good deal of difficulty in hearing from the secretaries, and I think we ought to have a table showing all the societies in the larger districts where the societies are widely scattered, as they are in Brainerd. I would like to have such a table of the different societies. There is another thing. Most of my work has been in connection with the American Medical Association. There was one suggestion sent out last year, and that was, I believe, that the councilor of each district was to forward programs to the state secretaries. I do not think anything of that nature has been done in that district. Possibly they expect the councilor to gather up the program. It would be a great help indeed to the councilor if the secretary of every society would forward these different programs so that when there was something particularly good he might be notified.

There was another thing that we took up at our last meeting, upon which it seems, other societies might take some action. We appointed a committee

at our last meeting to get after the newspapers for permitting advertisements of the various quacks and fakirs; and we believe we certainly can influence the local papers. You take the medical men of a town or village, and their business is, in one way and another, worth a good deal to the local newspaper. We are going to see if we cannot do something in our neighborhood, and we might all do something.

THIRD DISTRICT

Dr. W. S. Fullerton, St. Paul

Like Dr. Courtney, I will have to admit that I have not visited the counties in my district. The societies have all been running satisfactorily. I have heard no complaints, and know that they have been doing good work. I have therefore no special report to make. I am thoroughly in sympathy with, and my sentiments are the same as those of, Dr. Courteny and Dr. Hensel. I shall use my own judgment in going around in accordance with the amendment just passed. I do not want to make too radical a change next year because some one might think it was because there was $10.00 per day in it, but I shall go where I am needed.

FOURTH DISTRICT

Dr. F. A. Knight, Minneapolis

I have the same excuse, I have not visited my district with one exception. It seems to me that with a very little attention from the secretaries of the county societies their interests might be promoted. If the county societies send out programs and announcements of their meeting to their individual members it would require only one additional letter or postal card sent to the councilor to keep him in touch with the program of the society and the time and place of the meetings, and the names of the president, secretary, etc. The additional work amounts to nothing. I send out over 200 of these, and it amounts to nothing at all to send an extra one or two. I would suggest that the secretaries be requested to send to the councilor and to the secretaries of the adjoining societies their programs. The information would be of considerable value to the councilor, and he can then, if he chooses make his arrangements to visit any of the societies at their meetings.

FIFTH DISTRICT

Dr. H. M. Workman, Tracy

I am like the majority of the councilors: I have stayed at home pretty well. The only thing that happened in my district was the consolidation of Sibley, Chippewa and Renville counties, and it seems to the benefit of the Chippewa Society and advantage of all to go into the Chippewa district. I thought all the counties in my district were doing well until the last meeting of the Watowan society, which reports that they are losing in membership. I tried to find out from the county secretary what was the reason for this, but have been unable to do so. I think, as some of the other councilors have suggested, that if we could secure from the county secretaries or the state secretary the outline of the work, a list of officers, and copies of those reports, and particularly a copy of the list of non-members so that councilors might try to reach the men whom we want in the local societies, it would be of great advantage to us. I have tried to find out who the non-members are, but so far have been unable to do so.

SIXTH DISTRICT

Dr. A. E. Spalding, Luverne

The only society in my district that I know anything about is the Southwestern, which is in the following condition: We have thirty members who have paid their dues, and there are a number of others who have not yet paid their dues. I know nothing about the Blue Earth Valley Society, as I have been unable to get any reply to my letters to them.

Dr. McDavitt: The state secretary heard from them the first morning of the meeting, and they sent in their dues.

Dr. Spalding: We are increasing every year and are doing a great deal of good; and I think by a year from now we can report quite an increase in the membership of our Association.

SEVENTH DISTRICT

Dr. F. A. Dodge, councilor of the Seventh District, being absent, no report was submitted.

EIGHTH DISTRICT

Dr. A. O. Bjelland, Mankato

I have not found it necessary to do much visiting back and forth as I am in touch with the counties through correspondence. I have been fortunately able to get answers from the secretaries. As far as I know there have been no quarrels, or anything of that nature, and I think nearly all of the societies, except some of the smaller ones, are doing good work.

Dr. Courtney: Having listened to the various reports one or two ideas have occurred to me which I believe, would be of great value in carrying out the work of the councilors. I would like some one to put in to the form of a motion that the secretary of each society within the councilor's district should mail to each of the secretaries of similar societies in the district a copy of their programs, and that they be duly informed who the councilor is and where he resides. I do not believe ten members of my district know that I am a councilor.

Another thing that occurs to me as a matter of vast importance and assistance to other councilors, and that is to have the secretary of each society send to his councilor a report of each meeting's proceedings. If this is done, I can see how a councilor can keep closely in touch with all the work in his

district, and then he can tell whether it will be necessary to draw this $10.00 per day for visiting the society.

Dr. Burnside Foster: That simply emphasizes what I have said so many times, that our volume of proceedings is very seldom read.

Dr. McDavitt: I think one of the great faults at the present time in our county organization in the fact of the frequent change in secretaries. Almost every year there is a change of secretaries in a great many of the counties. For the benefit of the organization, it would be better if they could elect some good secretary and keep him there long enough so that he can understand exactly how the organization is run. Another thing that I think has been a little neglected. I do not think that our councilors have fully understood or grasped the idea of the importance of the councilor's work. The councilor at the present time is expected to be the organizer and the censor of the state organization. It is not the duty of the state secretary. He works under organization. According to the by-laws the council is divided up into two districts, and a councilor is appointed who is expected to supply orders, to see that his district is organized, to be present at least once a year and keep them in touch, and to have the secretaries inform him of just exactly what they want him to do in his particular district. It is the councilor's business to keep the different county societies in working order and in that way let them understand that there is an official of the state organization immediately over them. The secretary of the state organization does not wish to shirk any of his work, but that particular work is the work that the Council is expected to do. It is what the Council is made for. It is not expected to simply come up here once a year and report, and do nothing the rest of the year.

I do not want the councilors to think that the secretary is trying to lay any of the blame that he is entitled to, in commission or omission, on the council, but if they can keep up the enthusiasm of this organization in that way the secretary can be informed of what is being done. It is the expectation that he gets his information from the council. Half the time I cannot find out who is the secretary of a county society. I have not been informed that there has been any change. The councilor should be in such close touch with his counties that he can inform me, and I can begin work from this end of the line.

Dr. W. S. Fullerton: Our worthy secretary has been digging the Council pretty well. There is one thing I want to speak a few words about. Every member knows that Thos. McDavitt is secretary of the Association. Every trouble that occurs is referred to Thos. McDavitt, and if he will, when these complaints come in, refer them at once to the councilor, it will obviate a good deal of trouble. They know Dr. McDavitt is secretary, and he can help the councilors in that way. If he will simply refer the letters to the councilor of the district.

Dr. Walter Courney: I believe that if each secretary would send a written report of the proceedings of every meeting to the councilor he would assist materially for a number of our societies hold their elections contrary to the constitution, and on different days. There is no easy way of finding out who the officers of the different societies are. If these proceedings were sent he would be constantly advised of changes. I do not know of anything that would help the council out any more.

Dr. A. G. Stoddard: I would like to ask the secretary what steps would be necessary in order to bring that very thing about, that is, that the secretaries of our local societies be made members of this House of Delegates. It seems to me there ought to be some way of making these members ex-officio members of the House of Delegates. It certainly would put them in touch with all the workings of the organization.

Dr. E. A. Hensel: I move that the president of the society for the coming year and the secretary appoint a committee to look up the matter of making the secretaries *ex-officio* members of the House of Delegates before the next annual meeting.

Motion prevailed.

Dr. Burnside Foster: Concerning the matter of keeping each other informed in regard to meetings of local societies; if the secretaries of the various county medical societies would send the names of their secretaries to one of the medical journals in the state, it would be possible to convey the information very generally as most of the members take one of the journals.

The president appointed the following committee to consider the advisibility of publishing a state journal.

Dr. H. M. Workman, Tracy.

Dr. W. S. Fullerton, St. Paul.

Dr. F. A. Knight, Minneapolis.

On motion of Dr. Burnside Foster the House of Delegates adjourned.

FRIDAY, JUNE 2, 1905

A special meeting of the house of delegates was called to order by the president at 3:30 p. m.

On motion of Dr. Burnside Foster Minneapolis was selected as the place for holding the next annual meeting.

The Secretary: I find that our membership has run up to 1003, which entitles us to one more delegate in the American Medical Association. (Applause.) (It was afterwards discovered this could not be done until a new apportionment was ordered by A. M. A.) It will be necessary this year. Drs. Hall and Workman are the two delegates, and Dr. Rogers is alternate, for two years, and I think it might be well to elect him delegate for two years. That would advance Dr. Spaulding to alternate for one year, and Dr. McGaughey would be alternate again, and we

could elect an alternate for two years.

On motion of Dr. Fullerton the action taken by the House of Delegates in the election of Dr. Rogers as alternate was reconsidered.

Dr. Fullerton placed in nomination Dr. Rogers as a delegate to the American Medical Association for two years and on his motion the secretary was instructed to cast the ballot of the Association in favor of Dr. Rogers.

On motion of Dr. Burnside Foster the election of Dr. Spaulding as alternate for two years was reconsidered.

On motion of Dr. Foster the secretary was instructed to cast the ballot of the Association in favor of Dr. Spaulding as alternate for one year.

On motion of Dr. C. A. Stewart the election of Dr. McGaughey as alternate for two years was reconsidered.

On motion of Dr. F. A. Knights the secretary was instructed to cast the ballot of the Association in favor of Dr. McGaughey as alternate for one year.

The Secretary: I think we passed over the resolution offered by Dr. Sweeney in relation to the medical-practice act.

Dr. Burnside Foster: I think the adoption of the resolution by the House of Delegates and the appointment of a committee would go a long way to establish a proper relationship between the various county societies and the State Board of Medical Examiners and I would like to move the adoption of the resolution, and that Dr. Sweeney be appointed by the chairman as one member of a committee of three to take the steps recommended.

Dr. A. G. Stoddard: If we pass that resolution, it will be a sort of tacit assumption that the State Board of Medical Examiners as it is now constituted has some affiliation with the Association. As a matter of fact that is not true. It is a board composed of several different schools, and I doubt whether we improve matters particularly by instructing them in their particular business. Aside from that I think the suggestions are good, but I am quite sure that the assumption that we have any right to instruct the board would not go down with some members.

Dr. Burnside Foster: We do not insist on anything. It is simply the appointment of a committee to confer with the board.

The object is to have the committee go to the board in a diplomatic way, and I belive the effort would result in good.

I meant to add a word in regard to the suggestion that the State Medical Association submit to the governor a list of six names, and that the president of the association select six representative men whom he thinks would be good men to serve on the board, and let them be submitted to the governor. I think the suggestion is an excellent one. I think if we had a governor like Gov. Johnson it would be a good thing. Let either the president or the Council select the names.

Dr. A. G. Stoddard: If all the members of the board belonged to our school and were members of this society there would be no objection to the plan, but it would not be a diplomatic thing to do when you come to consider that there are three schools represented on the board. It would be a tacit assumption on the part of this State Medical Association that they wanted to dictate to that board, and the question is whether it would be a diplomatic thing to do. I am rather inclined to think it would not, and I also have the same opinion of the clause where the state board is asked to make report of its doings to this Association. I do not know whether there would be any objection, but I do not know whether it would be wise for this Association to ask it.

Dr. Walter Courtney: In regard to the suggestion of sending a certain number of names of our members to the governor from which to make a selection of the board, I do not think there ought to be any objection to that for the reason I understand the dentists and the homeopaths do that very thing. We are only recommending members for appointment and not dictating who shall be appointed.

Dr. G. R. Curran: We know the governor does appoint so many regular physicians who are members of our state Association, therefore why not have a list of men from the state association from which he can make a selection. I think the House of Delegates are the ones to give that list to the governor.

The Secretary: It appears to me that the most objectionable clause is the one which requires the state board to report to this Association. I should consider that a species of arrogance and I do not think it should be considered here for a moment. With that out I do not think there is anything objectionable in the resolutions.

On motion of Dr. Workman the recommendation that the State Board of Medical Examiners report to the State Medical Association was stricken out.

The Chairman: We should be very cautious, and as we have reason to expect more in the future than we have received in the past I think that we ought to proceed very cautiously. This is a delicate matter.

Dr. A. G. Stoddard: If this were the proper time and place and there was a sufficient amount of time to devote to it there are a great many things that could be gone into, but we cannot take them up here. This particular society or any medical society wants to go slow, it wants to be particularly careful to keep its hands off from the medical board.

Dr. C. A. Stewart: Why would it not be better to simply appoint a committee to confer with the examining board to see to what extent they will collaborate before taking any definite steps suggested in the resolution.

On motion of Dr. A. G. Stoddard the clause recommending the submission of a list of six names to the governor for appointment to the board was stricken out.

The motion offered by Dr. Foster was then put to a vote and the resolutions as amended were unanimously adopted.

On motion of Dr. McDavitt, Dr. J. W. Bell was named as chairman of a committee of three to confer with the state board of medical examiners with authority to appoint the two other members. Dr. R. J. Hill, Minneapolis, Thos. McDavitt, St. Paul appointed with Dr. Bell.

On motion of Dr. C. A. Stewart the time of the next annual meeting was fixed for the third Wednesday in June.

On motion of Dr. Foster the House of Delegates adjourned.

DISTRICT AND COUNTY ROSTER

FIRST DISTRICT

COUNCILOR, E. A. HENSEL.....Alexandria

Clay-Becker County Medical Society

Regular meetings, last Monday in March, June, September, and December
Annual meeting in September

Awty, W. J., President.....Moorhead
Hyde, Leon W., Secretary.....Moorhead
Aborn, Wm. H.....Hawley
Alexander, F. H.....Barnesville
Barton, E. R.....Frazee
Carman, J. B.....Detroit
Darrow, Daniel C.....Moorhead
Dawson, C. A.....Glyndon
Egge, T. S.....Moorhead
Germain, R. T.....Barnesville
Heimark, O. E.....Hawley
Hoit, Edward E.....Detroit
Humphrey, E. H.....Moornead
Jones, S. S.....Frazee
Kaess, Andrew J.....Moorhead
Weeks, L. C.....Detroit

Park Region District and County Medical Society

Wilkins, Otter Tail, Douglas, and Grant Counties

Regular meetings, second Wednesday in January, April, July and October.
Annual meeting in October.

Sherping, O. Th., President...Fergus Falls
Haugan, O. M., Secretary.....Fergus Falls
Armstrong, L. W.....Breckenridge
Baker, A. C.....Fergus Falls
Brabec, F. J.....Perham
Berthold, J. L.....Perham
Boyd, H. J.....Alexandria
Cowing, Phil. G.....Ashby
Davis, L. A.....Dalton
Duncan, W. T.....Fergus Falls
Freeborn, J. A.....Fergus Falls
Guldseth, Gustave.....Battle Lake
Heimark, C. B.....Wendell
Hensel, E. A.....Alexandria
Jelstrup, Christian Vining
Lee, J. K.....Minneapolis
Kittleson, Thos. N....Fergus Falls
Livingstone, J. L.....Wells
Lyng, John A.....Minneapolis
McLean, T. N.....Fergus Falls
Mathieson, G. B.....Evansville
Meckstroth, C. W.....Brandon
Muus, Peter H.....Kensington
Quitmeyer, O. C....Parkers Prairie
Rae, D. F.....Fergus Falls
Regner, J. A.....Alexandria
Seashore, D. E.....Battle Lake
Serkland, J. C.....Rothsay
Smith, L. G.....Foxhome
Truax, W. E.....Breckenridge
Vigen, J. G.....Fergus Falls
Vinje, Syver Henning

Red River Valley Medical Society

Polk, Marshall, Kittson, Roseau, and Norman Counties
Regular meetings, fourth Tuesday in each month
Annual meeting in October

M. McKinnon, President.....Fosston
Bratrud, Theodore, Secretary..Warren
Baker, A. C.....Stephen
Boeckman, M....Thief River Falls
Blomburgh, A. F.....St. Hilaire
Chapin, J. S.....Euclid
Cummings, J. C.....St. Hilaire
Dampier, C. E.....Crookston
Danielson, K. A.....Twin Valley
Denniston, C. H.....Crookston
Dunlop, A. H.....Crookston
Farley, F. X.....Crookston
Gambell, S. H....Thief River Falls
Golberg, M. L.....Twin Valley
Gronvold, F. O.....Gary
Hanson, George C.....Climax
Hanson, M.....Hendrum
Holte, H.....Crookston
Kjelland, J. S.....Crookston
Koch, John C.....Fertile
Lmieux, Israel.....Red Lake Falls
Lockwood, M. M.....Hallock
Lyman, F. V.....Beltrami
Melby, O. F.....Warren
Mitchell, F.....Euclid
Morley, G. A.....Crookston
Nelson, A.....Fertile
Neraal, P. O.....McIntosh
Ohnstad, J.....McIntosh
Olson, O. H.....Erskine
Risjord, J. N.....Fertile
Shaleen, Arthur W.....Hallock
Slippern, D. H.....Fosston
Smith, H. W.....Crookston
Stuhr, H. C.....Argyle
Vistaunet, P. L...Thief River Falls
Wattam, G. S.....Warren
Watson, N. M.....Red Lake Falls
Wilkinson, John Clinton.....Red Lake Falls

West Central Minnesota Medical Society

Pope, Stevens, Traverse, and Big Stone Counties
Regular meetings, second Wednesday in January, April and July,
Annual meeting in October

Christenson, C. R., President..Starbuck
Bolsta, Charles, Secretary.....Ortonville
Caine, C. E.....Morris
Eberlin, E. A.....Glenwood
Fjelstad, C. A.....Glenwood
Fleming, A. S.....Wheaton
Heimark, J. H.....Cyrus
Hulburd, H. L.....Morris
Karn, J.....Ortonville
Leuty, Amos Morris
MacKenzie, L. F.....Villard
MacMurphy, Geo.....Ortonville
Nuckolls, G. W.....Tintah
Oliver, C. I.....Graceville
Ransom, M. L.....Hancock
Wier, J. D.....Beardsley

SECOND DISTRICT

COUNCILOR, WALTER COURTNEY.....Brainerd

Upper Mississippi Medical Society

Aitkin, Beltrami, Cass, Crow Wing, Hubbard, Morrison, Todd, and Wadena Counties

Regular meetings, second Tuesday in January, April, July and October.
Annual meeting in January.

Millspaugh, J. G., President..Little Falls
Coulter, Charles F., Secretary.Wadena
Allen, Frank H.....Staples
Avery, J. F.....Aitkin
Babcock, L. W.....Wadena
Batcheller, Oliver T.....Brainerd
Beise, R. A.....Brainerd
Belsheim, A. G.....Aitkin
Cameron, William G.....Staples
Camp, James L.....Brainerd
Chance, Norman W....Little Falls
Christie, George R....Long Prairie
Course, Chas.....Verndale
Courtney, Walter Brainerd
Cutler, Charles W....Park Rapids
Desmond, M. A.....Eagle Bend
Fortier, Geo. M. A.....Little Falls
George, James W.....Altkin
Gilmore, R. T.....Bemidji

Groves, A. F.....Brainerd
Hemstead, Werner Brainerd
Kenyon, Paul E.....Wadena
Knickerbocker, Frank H....Staples
Lowthian, G. H.....Hewitt
McCullough, George.....Motley
McKinnon, J. J.....Wadena
Miller, W. A.....New York Mills
Morrison, William R.....Bemidji
Mowers, S. W.....Brainerd
Nicholson, Joseph Brainerd
Parrott, B. W.....Long Prairie
Roberts, L. M.....Little Falls
Rodwell, T. F.....Cass Lake
Seguin, Edwin Buckman
Stone, W. T.....Park Rapids
Thabes, J. A.....Brainerd
Trace, O. C.....Little Falls
Van Valkenberg, B. F.....
.....Long Prairie
Whyte, J. J.....Bertha
Wilcox, F. L.....Walker

THIRD DISTRICT

Councilor, W. S. Fullerton.....St. Paul

Ramsey County Medical Society

Regular meetings last Monday of each month, except July and August.
Annual meeting in January.

Dunning, A. W., President.....
.....St. Paul
Geer, E. F., Secretary.....
.....St. Paul
Abbott, E. J.....St. Paul
Allen, Mason.....St. Paul
Arcker, A. B.....St. Paul
Appleby, E. V.....St. Paul
Armstrong, J. M.....St. Paul
Artz, C. P.....St. Paul
Bacon, Knox St. Paul
Bacon, L. C.....St. Paul
Baker, J. F.....St. Paul
Balcome, F. E.....St. Paul
Ball, C. R.....St. Paul
Barsness, Nellie.....St. Paul
Benepe, L. M.....St. Paul
Bettingen, J. W.....St. Paul
Binder, Geo. A.....St. Paul
Boeckmann, E.....St. Paul
Bole, R. S.....St. Paul
Brooks, D. F.....St. Paul
Brown, E. I.....St. Paul
Buckley, E. W.....St. Paul
Cameron, J. A.....St. Paul
Cannon, Charles M.....St. Paul
Cavanaugh, J. O.....St. Paul
Chamberlin, J. W.....St. Paul
Christison, J. T.....St. Paul
Clark, C. L.....White Bear
Colvin, A. R.....St. Paul
Cook, Paul B.....St. Paul
Coon, Geo. M.....St. Paul
Cuff, Wm. S.....St. Paul
Davis, H. W.....St. Paul
Davis, William.....St. Paul
Dennis, W. A.....St. Paul
Denny, C. F.....St. Paul
Earl, Robert O.....St. Paul
Eisengraeber, G. A.....Waconia
Eshelby, E. C.....St. Paul
Ferguson, J. C.....St. Paul
Flagg, S. D.....St. Paul
Foster, Burnside St. Paul
Fullerton, W. S.....St. Paul
Fulton, J. F.....St. Paul
Gilfillan, J. S.....St. Paul
Gillette, A. J.....St. Paul
Goodrich, Judd St. Paul
Gravelle, J. M. A.....St. Paul
Greene, C. L.....St. Paul
Hall, A. R.....St. Paul
Hall, Charlotte St. Paul
Hawkins, V. J.....St. Paul
Heath, A. C.....St. Paul
Henderson, A.....Scanlon
Hesselgrave, S. S.....St. Paul
Hoff, Peder A.....St. Paul
Hunt, H. E.....St. Paul
Johnson, Asa St. Paul
Johnson, H. C.....St. Paul
Jones, Talbot St. Paul
Keam, A. P.....St. Paul
Kelley, W. D.....St. Paul
Kistler, A. S.....St. Paul
Lando, D. H.....St. Paul
Lankester, Howard St. Paul
Leavitt, F. E.....St. Paul
Lee, C. E.....St. Paul
Lerche, Wm.....St. Paul
Lewis, J. D.....St. Paul
Lewis, W. W.....St. Paul
Lundholm, E. M.....St. Paul
McCloud, C. N.....St. Paul
McCord, E. W.....St. Paul
McDavitt, Thos.....St. Paul
MacLaren, A.....St. Paul
McLaren, Jeanette St. Paul
Macdonald, Angus St. Paul
MacNamara, J. G.....St. Paul
Markoe, J. C.....St. Paul
Meade, C. J.....St. Paul
Miller, A. W.....St. Paul
Nelson, J. C.....St. Paul
Nelson, L. A.....St. Paul
Nippert, H. T.....St. Paul
Norton, H. G.....St. Paul
O'Brien, H. J.....St. Paul
O'Connor, J. V.....St. Paul
Odendahl, F. H.....St. Paul
Ohage, J.....St. Paul
Pine, A. A.....St. Paul
Pine, O. S.....St. Paul
Plondke, F. J.....St. Paul
Quinn, J. A.....St. Paul
Ramsey, W. R.....St. Paul
Ravich, S.....St. Paul
Renz, G. A.....St. Paul
Riggs, C. E.....St. Paul
Ritchie, H. P.....St. Paul
Ritchie, Parks St. Paul
Rogers, J. T.....St. Paul
Rothrock, J. L.....St. Paul
Roy, Philemon St. Paul
Savage, Francis J.....St. Paul
Schadle, J. E.....St. Paul
Schwyzer, Arnold St. Paul
Senkler, Geo. E.....St. Paul
Shimonek, Anton St. Paul
Sneve, Haldor St. Paul
Sohlberg O.....St. Paul
Staley, J. C.....St. Paul
Sweeney, Arthur St. Paul
Sweney, C. F.....St. Paul
Taylor, H. L.....St. Paul
Tessler, M.....St. Paul
Van Slyke, C. A.....St. Paul
Van Slyke, F. W.....St. Paul
Vieregge, J. A.....St. Paul
Vittum, W. H.....St. Paul
Walrath, Belle St. Paul
Walsh, E. F.....St. Paul
Warne, E. G.....St. Paul
Wheaton, C. A.....St. Paul
Whitacre, J. C.....St. Paul
Whitcomb, A. L.....St. Paul
Whitcomb, E. H.....St. Paul
Whitman, A. F.....St. Paul
Whitney, A. W.....St. Paul
Williams, C.....St. Paul
Wood, E. S.....St. Paul

Washington County Medical Society

Regular meetings second Tuesday every two months, odd numbered months.
Annual meeting in January.

Clark, T. C., President.....
..... Stillwater
Landeen, F. G., Secretary.....
.....Stillwater
Boleyn, E. S.....Stillwater
Freligh, E. O'B.....Stillwater
Haines, J. H.....Stillwater
Kalinoff, D.....Stillwater
Merrill, B. J.....Stillwater
Noth, Henry W.....Marine Mills
Pratt, W. H.....Stillwater
Ryan, E. P.....Stillwater
Stevens, F. A.....Lake Elmo
Swartz, W. J.....Forest Lake
Thomas, O. F.....Lakeland
Wells, E. E.....Stillwater

Chisago-Pine County Medical Society

Regular meetings, second Tuesday in January, April, July, and October
Annual meeting in October

Anderson, C. A., President...
.....Rush City
Dredge, H. P., Secretary.....
..... Sandstone
Barnum, E. E.....Pine City
Cowan, D. W.....Sandstone
Gemmel, J. E.....Rush City
Gunz, A. N.....Centre City
Hertzman, C. O.....Lindstrom
Lundgren, C. E.....Harris
Lyons, A.....Pine City
McEachern, W. A.....Sandstone
Murdock, H. G.....Taylor's Falls
Riley, E. A.....Willow River
Stephan, E. L.....Hinckley
Stenberg, Oscar.....Harris
Taustrom, Ingeborg....Center City
Weisman, R. L.....Pine City
Werner, O. S.....Lindstrom
Zeien, Thos.....North Branch

Central Minnesota District Medical Society

Mille Lacs, Isanti, Sherburne, and Kanabec Counties
Regular meetings, March, June, September and December

Cooney, H. C., President..... Princeton
Armitage, Thos. L. F., Secretary.....Princeton

Caldwell, D. K.....Milaca
Caley, G. R.....Princeton
Hixon, R. B.....Cambridge

Lewis, A. I.....Mora
Titus, W. S.....Mora
Whiting, I. F.....Spencer Brook

St. Louis Lake, Carleton, and Itasca County Medical Society

Regular meetings second Thursday of each month.
Annual meeting in December.

Eklund, J. J., President..... Duluth
Taylor, C. W., Secretary..... Duluth
Adams, B. S.....Hibbing
Ayers, G. T.....Ely
Bagley, W. R.....Duluth
Barrett, E. F.....Eveleth
Boyer, S. H.....Duluth
Braden, A. J.....Duluth
Bray, C. W.....Biwabik
Brunelle, A. M.....Cloquet
Budd, J. D.....Two Harbors
Bullen, F. W.....Eveleth
Carson, J. H.....Duluth
Chapman, T. L.....Duluth
Cheney, E. L.....Duluth
Collins, H.....Duluth
Coventry, W. A.....Duluth
Crowe, J. H.....Virginia
Davis, H. S.....Duluth
Daugherty, E. B.....Eveleth
Deslauriers, A. A.....Duluth
Detling, F. E.....Duluth
Drenning, F. C.....Duluth
Fahey, E. W.....Duluth
Farmer, J. C.....McKinley
Flemming, James Cloquet
Graham, D.....Duluth
Graham, R.....Duluth
Greeley, L. Q.....Duluth
Harwood, W. E.....Eveleth
Hirschfield, M. S.....Duluth
Hovde, H.....Duluth
Jern, J. H.....Duluth
Johnson, A. E.....Cloquet
Keith, J. R.....Duluth
Keyes, C. R.....Duluth
Knauff, M. K.....Two Harbors
Lenont, C. B.....Virginia
Linneman, N. L.....Duluth
Lum, C. E.....Duluth
Lynam, F.....Duluth
McAuliff, J.....Duluth
McComb, C. F.....Duluth
McCoy, M.....Duluth
McCuen, J. A.....Duluth
Magie, W. H.....Duluth
Maris, Emily Duluth
More, C. W.....Eveleth
Mortenson, W. S.....Duluth
Murray, D. D.....Duluth
Oredson, O. A.....Duluth
Pare, L. T.....Duluth
Parker, O. W.....Ely
Patton, F. J.....Duluth
Payette, C. H.....Duluth
Roadman, J. M.....Proctor Knott
Robinson, J. M.....Corning, N. Y.
Rood, D. C.....Hibbing
Salter, W. H.....Duluth
Schlick, A. T.....Duluth
Shaw, W. A.....Duluth
Shipman, C. G.....Ely
Stewart, C. A.....Duluth
Stierle, Adolph, J....Two Harbors
Stocker, S.....Duluth
Storch, J. M.....Grand Rapids
Strech, E. D.....Duluth
Taylor, A. C.....Duluth
Tilderquist, D. L.....Duluth
Tower, J. B.....Hibbing
Tufty, J. M. O.....Duluth
Walker, A. E.....Duluth
Weston, J. B.....Duluth
Wilkinson, S.....Duluth

FOURTH DISTRICT

COUNCILOR, F. A. KNIGHTS.....Minneapolis

Hennepin County Medical Society

Regular meetings, first Monday in each month, except July and August
Annual meeting in January

Thomas, David O., President.. Minneapolis
Knights, F. A., Secretary..... Minneapolis
Abbott, A. W.....Minneapolis
Adair, F. L.....Minneapolis
Aldrich, A. G.....Minneapolis
Aling, C. P.....Minneapolis
Anderson, A. E.....Minneapolis
Anderson, J. D.....Minneapolis
Arey, H. C.....Excelsior
Aurand, W. H.....Minneapolis
Aurness, P. A.....Minneapolis
Aylmer, A. L.....Minneapolis
Baier, Florence C.....Minneapolis
Barber, J. P.....Minneapolis
Barton, G. C.....Minneapolis
Bass, G. W.....Minneapolis
Baxter, S. H.....Minneapolis
Beard, R. O.....Minneapolis
Beckman, E. H.....Minneapolis
Behrens, B. M.....Minneapolis
Bell, J. W.....Minneapolis
Bendeke, Karl.....Minneapolis
Benjamin, A. E.....Minneapolis
Bessessen, A. N.....Minneapolis
Bevan, Chas. J.....Minneapolis
Bishop, C. W.....Minneapolis
Bloom, W. D.....Toronto, Canada
Bouman, H. A.....Minneapolis
Bracken, H. M.....St. Paul
Bradley, C. H.....Minneapolis
Brown, E. J.....Minneapolis
Brown, R. S.....Minneapolis
Burnham, C. F.....St. Paul
Byrnes, W. J.....Minneapolis
Caine, A. F.....Anoka
Cary, H. E.....Minneapolis
Carlaw, C. M.....Minneapolis
Cates, A. B.....Minneapolis
Chapman, O. S.....Minneapolis
Chowning, W. M.....Minneapolis
Cirkler, A. A.....Minneapolis
Cockburn, J. C.....Minneapolis
Cohen, H. A.....Minneapolis
Condit, W. H.....Minneapolis
Cooke, W. H.....Minneapolis
Corbett, J. F.....Minneapolis
Cowles, D. C.....Minneapolis
Crosby, J. A.....Minneapolis
Cosmann, E. O.....Minneapolis
Crafts, Leo M.....Minneapolis
Cross, Jno. G.....Minneapolis
Crume, Geo. P.....Minneapolis
Day, L. W.....Minneapolis
Dart, L. O.....Minneapolis
Dearborn, B.....Minneapolis
Deziel, G.....Minneapolis
Disen, C. F.....Minneapolis
Donaldson, C. A.....Minneapolis
Doyle, J. W.....Minneapolis
Driesbach, N.....Minneapolis
Dumas, C. H.....Minneapolis
Dunsmoor, F. A.....Minneapolis
Dutton, C. E.....Minneapolis
Eitel, Geo. G.....Minneapolis
Erb, Frederick A.....Minneapolis
Farr, R. E.....Minneapolis
Fitzgerald, R. J.....Minneapolis
Fliesburg, O. A.....Minneapolis
Force, J. F.....Pasadena, Cal.
Fullerton, Ellen C.....Rochester
Geist, Emil S.....Minneapolis
Gould, J. B.....Minneapolis
Graham, B. F.....Minneapolis
Green, E. K.....Minneapolis
Hack, C. W.....Minneapolis
Haggard, G. D.....Minneapolis
Hall, W. A.....Minneapolis
Hamilton, A. R.....Minneapolis
Hare, E. R.....Minneapolis
Harrah, J. W.....Minneapolis
Harrington, C. D.....Minneapolis
Hartzell, Thos. B.....Minneapolis
Haverfield, Addie R...Minneapolis
Haynes, F. E.....Minneapolis
Head, Geo. D.....Minneapolis
Helk, H. H.....Minneapolis
Henry, C. E.....Minneapolis
Hill, R. J.....Minneapolis
Hirschfield, Adolph.....Minneapolis
Hcegh, Knut.....Minneapolis
Holl, P. M.....Minneapolis
Hvoslef, Jakob.....Minneapolis
Hunter, C. H.....Minneapolis
Hutchins, E. A.....Minneapolis
Hynes, James Minneapolis
Ingraham, Elizabeth...Minneapolis

Irwin, A. F.....Minneapolis
Jensen, M. J.....Minneapolis
Johnson, A. E.....Minneapolis
Jones, Herbert W.....Minneapolis
Jones, W. A.....Minneapolis
Kelly, E. S.....Minneapolis
Kelsey, C. A.....Minneapolis
Kennedy, Jane.....Minneapolis
Kimball, H. H.....Minneapolis
Kistler, C. M.....Minneapolis
Kistler, J. M.....Minneapolis
Kriedt, Dan'l.....Minneapolis
Lapierre, C. A.....Minneapolis
Laton, W. S.....Minneapolis
Laws, F.....Minneapolis
Lee, Thos. G.....Minneapolis
Leland, H. N.....Minneapolis
Lewis, J. M.....Minneapolis
Lind, A.....Minneapolis
Lind, C. J.....Minneapolis
Linjer, O. E.....Minneapolis
Linton, W. B.....Minneapolis
Little, J. W.....Minneapolis
Litzenberg, J. C.....Minneapolis
Loberg, A. E.....Minneapolis
Lockwood, S. O.....Minneapolis
Long, Jesse.....Minneapolis
Luther, Clara M.....Minneapolis
McCollom, C. A.....Minneapolis
McDaniel, Oriana.....Minneapolis
McDonald, H. N.....Minneapolis
McDonald, I. C.....Minneapolis
McDougald, D. W.....Minneapolis
McEachran, A.....Minneapolis
McMurdy, R. S.....Minneapolis
Macdonald, J. W.....Minneapolis
Malchow, C. W.....Minneapolis
Macnie, J. S.....Minneapolis
Mann, A. T.....Minneapolis
Mead, Marion A.....Minneapolis
Mintener, J. W.....Minneapolis
Mitchell, L. C.....Minneapolis
Moore, J. E.....Minneapolis
Moore, J. T.....Minneapolis
Moorehead, Martha B...Minneapolis
Morton, H. McI.....Minneapolis
Murdock, A. J.....Minneapolis
Murphy, W. B.....Minneapolis
Murray, Wm. R.....Minneapolis
Musgrave, Samuel, Jr., Minneapolis
Nelson, H. S.....Minneapolis
Newhart, Horace.....Minneapolis
Nippert, L. A.....Minneapolis
Nootnagle, Chas.....Minneapolis
Nye, W. F.....Minneapolis
Orton, H. N.....Minneapolis
Parker, E. H.....Minneapolis
Peters, R. M.....Minneapolis
Petit, C. W.....Minneapolis
Phillips, Edwin.....Minneapolis
Pineo, W. B.....Minneapolis
Poehler, F. T.....Minneapolis
Polk, Wm. R.....Minneapolis
Porteous, W. N.....Minneapolis
Putman, Catherine E.....St. Paul
Quinby, Thos. F.....Minneapolis
Read, Harry K.....Hibbing
Rees, S. P.....Minneapolis
Ringnell, C. J.....Minneapolis
Rishmiller, J. H.....Minneapolis
Roberts, Cora B.....Minneapolis
Roberts, Thos. S.....Minneapolis
Robitshek, E. C.....Minneapolis
Rochford, W. E.....Minneapolis
Rogers, Jno. J.....Minneapolis
Rutledge, J. W.....Minneapolis
Schefcik, F. C.....Minneapolis
Schwyzer, G.....Minneapolis
Seashore, Gilbert.....Minneapolis
Sessions, J. C.....Minneapolis
Shelden, W. D.....Minneapolis
Simpson, Chas.....Minneapolis
Simpson, J. D.....Minneapolis
Slagle, C. G.....Minneapolis
Smith, C. A.....Minneapolis
Smith, D. E.....Minneapolis
Spratt, C. J.....Minneapolis
Spratt, C. N.....Minneapolis
Soderlind, A.....Minneapolis
Staples, H. L.....Minneapolis
Stewart, J. Clark.....Minneapolis
Straub, C. O.....Minneapolis
Strout, E. S.....Minneapolis
Stuart, J. H.....Minneapolis
Sweetser, H. B.....Minneapolis
Thomas, Geo. H.....Minneapolis
Thorkelsen, Thorvald...Minneapolis
Tibbits, J. I.....Wayzata
Todd, F. C.....Minneapolis
Towers, F. E.....Minneapolis
Towers, Mary E.....Minneapolis
Ulrich, Henry L.....Minneapolis
VanderHorck, M. P....Minneapolis
Wang, A. M.....Minneapolis
Wanous, E. Z.....Minneapolis
Warham, Thos. T.....Minneapolis
Watson, J. A.....Minneapolis
Watson, Jno.....St. Louis Park
Wesbrook, F. F.....Minneapolis
Weston, C. G.....Minneapolis
Whetstone, Mary S....Minneapolis
Whipple, C. D.....Minneapolis
White, S. M.....Minneapolis
Wilcox, Archa E.....Minneapolis
Wilcox, Van H.....Minneapolis
Williams, C. W.....Minneapolis
Williams, H. L.....Minneapolis
Williams, U. G.....Minneapolis
Woodard, F. R.....Minneapolis
Woodworth, Elizabeth..Minneapolis
Wright, C. D.....Minneapolis
Wright, F. R.....Minneapolis

Meeker County Medical Society

Hildebrandt, E., President.....Forest City
Robertson, J. W., Secretary...Litchfield
Cassell, H. E.....Litchfield
Chapman, W. E.....Litchfield
Cutts, G. A. C.....Grove City
Donovan, J. J.....Eden Valley
Kauffman, J. H.....Dassel
Morell, Harry Litchfield
Vibrance, C. G.....Watkins

Wright County Medical Society

Regular meetings first Monday in January, April, July and October.
Annual meeting in January.

Catlin, T. J., President.....Delano
Shannon, E. A., Secretary....Buffalo
Berquist, K. E.....Cokato
Bissell, F. S.....Maple Lake
Catlin, J. J.....Delano
Chilton, E. Y.....Howard Lake
Dahlquist, George W.....Cokato
Hawkins, E. P.....Montrose
Higgins, J. H.....Rockford
McKeon, Owen St. Michael
O'Connor, J. P.....Delano
O'Hair, P.....Waverly
Ridgway, A. M.....Annandale
Rogers, G. M. F.....Buffalo
Shrader, E. E.....Watertown

Stearns-Benton County Medical Society

Regular meetings, third Thursday in January, April, July, and October
Annual meeting in April.

Beebe, W. L., President.....St. Cloud
Whiting, Anton D., Secretary.....St. Cloud
Boehm, J. C.....St. Cloud
Brigham, G. S.....St. Cloud
Chilgren, G. A.....Sauk Rapids
DuBois, Julian A.....Sauk Center
Dunn, John B.....St. Cloud
Edmunds, I. L.....St. Cloud
Ferree, George P..New Paynesville
Hilbert, Pierre A.....Melrose
Holdridge, Geo. A.....Foley
Hubert, R. I.....St. Cloud
Kern, Max J.....Freeport
Lamb, Harold L.....Sauk Center
Lewis, Edwin J.....Sauk Center
McMasters, James M..Sauk Center
Maloy, Geo. E.....St. Cloud
Meyer, Edward St. Cloud
Pilon, Pierre C....New Paynesville
Putney, Geo. E....New Paynesville
Sherwood, Geo. E.....Kimball
Wolner, O. H.....St. Cloud
Woods, E. A.....Clear Lake

Kandiyohi-Swift County Medical Society

Meetings at call of President.
Annual meeting in April.

Scofield, C. L., President.....Benson
Newman, G. A., Secretary.....New London
Archibald, F. M.....Atwater
Daignault, Oscar.....Benson
Frost, E. H.....Willmar
Johnson, Christian.....Willmar
Johnson, Hans Murdock
Peterson, J. R.....Willmar
Rains, J. M.....Willmar

FIFTH DISTRICT

COUNCILOR, H. M. WORKMAN.....Tracy

Renville, Chippewa, Lac qui Parle, Yellow Medicine, and Sibley County Medical Society

Regular meetings second Tuesday in January, April, July and October.
Annual meeting in January.

Mesker, G. H., President.....Olivia
Zimbeck, R. D., Secretary.....Montevideo
Bacon, R. S.....Montevideo
Beck, W. M.....Hanley Falls
Burns, M. A.....Milan
Bushey, M. E.....Arlington
Clay, E. M.....Renville
Cole, H. B.....Franklin
Cressey, F. J.....Granite Falls
Davison, P. C.....Clara City
Duncan, Henry Marietta
Ferguson, James B.....Olivia
Flower, Ward Z.....Gibbon
Gammell, H. W.....Madison
Giere, E. O.....Madison
Hacking, F. H.....Granite Falls
Hendrickson, H. W....Montevideo
McKibbin, H. E.....Hector
Johnson, A. Einar.....White Rock, S. D.
Johnson, H. M.....Dawson
Johnson, Otto F.....Winthrop
Jones, D. N.....Gaylord
Kanne, C. W.....Arlington
Kilbride, J. S.....Canby
Langford, J. J.....Green Isle
Lee, Wm. P.....Fairfax
Lumley, W. A.....Renville
Mee, P. H.....Gaylord
Miller, F. C.....Olivia
Moore, W. J.....Wood Lake
Nelson, N. A.....Dawson
Penhall, F. W.....Morton
Rees, H. Maynard
Rogers, C. E.....Montevideo
Rogers, H. W.....Montevideo
Schjelderup, N. H....Granite Falls
Stemsrud, A. A.....Dawson
Stoddard, A. G.....Fairfax
Stratton, W. M.....Granite Falls
Strout, George F.....Winthrop
Thrane, M.....Madison
Tillisch, Henrik Canby
Titus, J. H.....Sacred Heart
Torgerson, W. B.....Clarkfield
Watson, Charles W.....Boyd
Watson, F. G.....Clarkfield

Brown-Redwood County Medical Society

Regular meetings first Tuesday in January, April, July and October.
Annual meeting in January.

Adams, J. L., President.....Morgan
Brand, W. A., Secretary.....Redwood Falls
Bennett, O. E.....Sanborn
Bickford, T. J.....Milroy
Clement, L. O.....Lamberton
Fritsche, L. A.....New Ulm
Gosslee, G. L.....Wabasso
Pease, Giles P.....Redwood Falls
Reineke, G. F.....New Ulm
Rothenberg, J. C.....Springfield
Schoch, J. L.....New Ulm
Schrader, J. S.....Springfield
Strickler, A. F.....Sleepy Eye
Strickler, O. C.....New Ulm
Vogel, J. H.....New Ulm
Weiser, G. B.....New Ulm
Wood, D. F.....Hanska

Lyon-Lincoln County Medical Society

Valentine, W. H., President.....Tracy
Workman, H. M., Secretary.....Tracy
Bacon, C. G.....Dayton
Cox, A. J.....Tyler
Cyr, A. Ghent
Germo, Chas.....Balaton
Hard, A. D.....Marshall
Knudson, B. C.....Tyler
Persons, C. E.....Marshall
Robertson, J. B.....Cottonwood
Tharldsen, Thorp Cottonwood
Thordarson, Th.....Minneota
Wakefield, Wm.....Lake Benton
Weyrens, P. J.....Ivanhoe
Wimer, T. H.....Marshall

SIXTH DISTRICT

COUNCILOR, A. E. SPALDING.....Luverne

Southwestern Society

Pipestone, Rock, Nobles, Murray, Cottonwood, and Jackson Counties

Regular meetings second Thursday in January and July.
Annual meeting in January.

Manson, F. M., President.....Worthington
Jenckes, H. D., Secretary.....Pipestone
Beadle, W. D.....Windom
Bingham, Josephine Ruthton
Brown, A. H.....Pipestone
Clark, A. H.....Worthington
Francis, Thos. B.....Edgerton
Froshaug, S. J.....Hills
Gerber, Lou M.....Jasper
Green, C. A.....Windom
Hummiston, Roy Worthington
King, Emil Fulda
Lowe, Thomas.....Pipestone
Lus, R. B.....Pipestone
May, C. C.....Adrian
Miller, Victor I.....Westbrook
Moen, J. K.....Windom
Nelson, C. P.....Westbrook
Richardson, W. E.....Slayton
Schultz, A. J.....Dundee
Searles, S. S.....Lakefield
Spalding, A. E.....Luverne
Stevens, C. C.....Jasper
Sullivan, M.....Adrian
Taylor, Wm. J.....Pipestone
Walker, F. E.....Worthington
Weidow, Henry Worthington
Weiser, F. R.....Windom
Wheat, F. C.....Ellsworth
Wright, C. O.....Luverne

Blue Earth Valley Medical Society

Faribault and Martin Counties

Regular meetings second Tuesday in January and July.
Annual meeting in January.

Richardson, W. J., President.....Fairmont
Schmitt, S. C., Secretary.....Blue Earth City
Burton, C. N.....Elmore
Durgin, F. L.....Winnebago City
Forbes, H. J.....Winnebago City
Franklin, A. J....Blue Earth City
Hunt, F. N.....Blue Earth City
Hunte, A. F.....Truman
Jacobs, A. C.....Elmore
Johnson, H. P.....Fairmont
Leudtke, G. H.....Fairmont
Nannestad, J. R.....Bricelyn
Schmitt, A. F.....Mankato

Watonwan County Medical Society

Regular meetings, second Wednesday in even numbered months
Annual meeting in December

Cooley, C. O., Secretary.....Madelia
McCarthy, W. J.....Madelia
Rowe, W. H.....St. James

SEVENTH DISTRICT

COUNCILOR, F. A. DODGE.....Le Sueur

Nicollet County Medical Society

Nicollet and the West Half of Le Sueur County

Regular meeting two times a year, in January and September, at call of the President.

Aitkins, H. B., President.....Le Sueur Center
La Clerc, Joseph E., Secretary.....Le Sueur
Daniels, J. W.....St. Peter
Darling, W. H.....St. Peter
Dodge, F. A.....Le Sueur
Graham, D. M.....Le Sueur
Hopkins, M. P.....St. Peter
Kirk, D. A.....Le Sueur
McIntyre, G. W.....St. Peter
Merritt, Geo. F.....St. Peter
Munger, P. H.....Nicollet
Strathern, F. P.....St. Peter
Theissen, W. N.....Henderson
Tomlinson, H. A.....St. Peter
Valin, H. D.....St. Peter

McLeod County Medical Society

Regular meetings first Thursday in January, April, July and October.
Annual meeting in January.

Barrett, E. E., President.....Glencoe
James, P. E., Secretary.....Hutchinson
Bolles, D. W.....Brownton
Clark, H. S.....Glencoe
Clement, Jno. B.....Lester Prairie
Dorsey, John H.....Glencoe
Dulude, S. Winsted
Hovorka, Thos. W.....Silver Lake
Kohler, F. G.....Stewart
Nickerson, B. S.....Glencoe
Schefcik, John F.....Hutchinson
Sheppard, Fred.....Hutchinson
Sheppard, P. E.....Hutchinson
Tinker, C. W.....Stewart
Vollmer, Jos.....Hutchinson
Wakefield, Kee.....Hutchinson

Scott-Carver County Medical Society

Regular meetings first Thursday in March, June, September and December.
Annual meeting in December.

Phillips, W. H., President.....Jordan
Reiter, H. W., Secretary.....Shakopee
Bohland, F. J.....Belle Plaine
Grivelli, C. T.....Young America
Landenberger, John....New Prague
McKeon, James.....Montgomery
Moloney, G. R.....Belle Plaine
Novac, Edward E.....New Prague
Sanford, J. A.....New Market
Smith, H. O.....Shakopee
Schneider, H. A.....Jordan

Goodhue County Medical Society

Regular meetings, first Tuesday after the first Monday in January, April, July and October
Annual meeting in January

Hewitt, C. N., President.....Red Wing
Anderson, J. V., Secretary.....Red Wing
Backe, Edward.....Kenyon
Brynildsen, H. L.....Vasa
Conley, A. T.....Cannon Falls
Conley, H. E.....Cannon Falls
Dimmitt, F. W.....Red Wing
Gryttenholm, K.....Zumbrota
Hill, Charles.....Pine Island
Jaehnig, B.....Red Wing
Jewell, E. L.....Pine Island
Jones, A. W.....Red Wing
McKinstry, H. L.....Red Wing
Sawyer, H. P.....Goodhue
Watson, T. R.....Zumbrota
Wellner, G. C.....Red Wing

Rice County Medical Society

Regular meetings first Wednesday of January, April, July and October.
Annual meeting in January.

Rose, F. M., President.....Faribault
Huxley, F. R., Secretary.....Faribault
Brandenburg, F. D.....Mankato
Brubaker, E. E.....Northfield
Cool, D. M.....Faribault
Dodge, A. A.....Faribault
Greaves, Wm.....Northfield
Hunt, W. A.....Northfield
Jackson, R. N.....Faribault
Macdonald, A.....Morristown
Mayland, M. L.....Faribault
Phillips, J. R.....Northfield
Pringle, A. F.....Northfield
Robillard, W. H.....Faribault
Rogers, A. C.....Faribault
Rumpf, W. H.....Faribault
Seeley, J. S.....Faribault
Smith, P. A.....Faribault
Warren, F. S.....Faribault
White, J. B.....Faribault
Wilson, W.....Northfield

Wabasha County Medical Society

Regular meeting (anually) first Thursday after first Monday in July.

Adams, W. T., President.....Elgin
Wilson, W. F., Secretary.....Lake City
Adams, J. C.....Lake City
Bayley, E. H.....Lake City
Bond, J. F.....Wabasha
Cochrane, W. J.....Lake City
Davis, J. P.....Hammond
Ingram, Lawrence....Zumbro Falls
Lester, Charles A.....Wabasha
McGuigan, Henry Mazeppa
Slocumb, J. A.....Plainview
Waste, J. P.....Plainview

EIGHTH DISTRICT

COUNCILOR, A. O. BJELLAND.....Mankato

Blue Earth County Medical Society

Regular meetings last Monday of each month.
Annual meeting, December meeting.

Liedloff, A. G., Secretary.....Mankato
Andrews, J. W.....Mankato
Benham, E. W.....Amboy
Bjelland, A. O.....Mankato
Bomberger, F. J.....Mapleton
Curran, G. R.....Mankato
Davis, E. J.....Minnehaha
Davis, F. U.....St. Clair
Edwards, J. M.....Mankato
Frisbie, Wm.....Mankato
Grimes, H. F.....Lake Crystal
Hering, H. H.....Lake Crystal
Holbrook, J. S.....Mankato
Holman, C. J.....Mankato
Holman, Madge T.....Mankato
Hughes, Helen.....Mankato
Hughes, Jane.....Mankato
James, J. H.....Mankato
Kelly, T. C.....Garden City
Krueger, L. W.....Mapleton
McMicheal, O. H.....Vernon Center
Merrill, J. E.....Amboy
Osborn, Lida.....Mankato
Parker, H. G.....Madison Lake
Schmauss, F. L.....Mankato
Smith, D. D.....Mankato
Warham, T. T.....Vernon Center
Webster, I. D.....Mankato
Williams, Jno.....Lake Crystal

Dodge County Medical Society

Regular meetings, third Wednesday in January, May, and September
Annual meeting in May

Baker, A. L., President.....
..... Kasson
Harrison, E. E., Secretary....
..... West Concord
Adams, R. T.....Mantorville
Belt, W. E.....Dodge Center
Bigelow, C. S.....Dodge Center
Clifford, T. T.....West Concord
Davis, F. W.....Kasson
Thimsen, N.....Hayfield
Way, O. F.....Clairmont

Freeborn County Medical Society

Regular meetings, May and November
Annual meeting in January

Wedge, A. C., President.....
.....Albert Lea
Burton, O. A., Secretary.....
.....Albert Lea
Barck, G. W.....Albert Lea
Freeman, J. P.....Emmons
McKey, T. F.....Albert Lea
Nissen, Henrik.....Minneapolis
Palmer, W. L.....Glenville
Rodli, O. E.....Albert Lea
Stevenson, Geo. A.....Albert Lea
Todd, W. E.....Albert Lea
Von Berg, J. P.....Albert Lea
Wilcox, H. H.....Albert Lea
Williams, Robt.....Alden

Houston-Fillmore County Medical Society

Regular meetings, first Thursday in January, April, July, and October
Annual meeting in January

Browning, W. E., President...
.....Caledonia
Drake, F. A., Secretary.....
..... Lanesboro
Eby, C. B.....Spring Valley
Fischer, O. F.....Houston
Gowdy, F. A.....Harmony
Hart, A. B.....Canton
Jensen, T.....Spring Grove
Love, George A.....Preston
Onsgard, L. K.....Houston
Reay, G. R.....Hokah
Rhines, D. C.....Caledonia
Woodruff, C. N.....Wyckoff

Mower County Medical Society

Regular meetings second Wednesday of January, April, July and October
Annual meeting in October.

Henslin, A. E., President.....
.....Le Roy
Leck, C. C., Secretary.....
.....Austin
Allen, A. W.....Austin
Cobb, W. F.....Lyle
Daigneau, F. E.....Austin
Fiester, Fannie K.....Austin
Frazer, W. A.....Lyle
Freeman, W. W.....Grand Meadow
Gray, G. W.....Brownsdale
Hart, M. J.....Le Roy
Hegge, C. A.....Austin
Hegge, O. H.....Austin
Hollister, W. L.....Austin
Johnson, C. H.....Austin
Schultz, F. W.....Waltham
Lewis, C. F.....Austin
Maercklein, C. J.....Le Roy
Maercklein, O. C.....Adams
Mitchell, R. S.....Grand Meadow
Rodger, E. H. Washburn....Austin
Schottler, G. J.....Dexter
McKenna, W. H.....Austin

Olmsted County Medical Society

Regular meetings, last Tuesday of the odd numbered months
Annual meeting in January

Gulick, W. V., President.....
.....Oronoco
Granger, Chas. T., Secretary...
.....Rochester
Crewe, John E.....Rochester
Dugan, R. C.....Eyota
Graham, C.....Rochester
Mayo, W. W.....Rochester
Joyce, George T.....Rochester
Judd, E. S.....Rochester
Kilbourne, A. F.....Rochester
Linton, Laura.....Rochester
Mayo, C. H.....Rochester
Mayo, W. J.....Rochester
Millet, M. C.....Rochester
Mosse, F. R.....Rochester
Phelps, R. M.....Rochester
Plummer, H. S.....Rochester
Steven, George.....Byron
Stinchfield, A. W.....Rochester
Witherstine, H. H.....Rochester

Steele County Medical Society

Regular meetings first Tuesday in odd numbered months.
Annual meeting in January.

Hatch, Theodore L., President
.....Owatonna
Stewart, Allan B., Secretary...
.....Owatonna
Adair, John H. Owatonna
Andrist, James W.....Ellendale
Bakke, O. H.....Minneapolis
Bigelow, Edward E.....Owatonna
Eustis, Warren C.....Owatonna
Morehouse, G. G.....Owatonna
Schulze, George.....Owatonna
Smersh, Francis M.....Owatonna
Twiford, William H.....Owatonna
Wood, William S..Blooming Prairie

Waseca County Medical Society

Regular meetings, first Monday in January, April, July and October.

Annual meeting in January.

Cummings, D. S., President....
.....Waseca
Lynn, J. F., Secretary.....
..... Waseca
Batchelder, E. J.....New Richland
Blanchard, H. G.....Waseca
Chamberlin, W. A.....Waseca
Hagen, H. O.....New Richland
O'Hara, J. J.....Alma City
Swartwood, F. A.....Waseca
Taylor, M. J.....Janesville

Winona County Medical Society

Regular meetings first Tuesday in January, April, July and October.
Annual meeting in January.

Muir, E. S., President.....
.....Winona
McGaughey, J. B., Secretary..
.....Winona
Blair, Paul B.....Winona
Boyd, C. A.....Lewiston
Brown, Harry Rollingstone
Clark, C. N.....St. Charles
Dudley, H. D.....
.....Cananea, Sonora, Mexico
Gates, G. L.....Winona
Heise, W. F. C.....Winona
Keyes, E. D.....Winona
Lane, N. S.....Winona
Leicht, Oswald Winona
Lichtenstein, H. M.....Winona
Lynch, J. L.....Winona
McGaughey, H. F... Winona
Munger, L. H.....Winona
Olsen, O. R.....St. Charles
Pritchard, D. B.....Winona
Robbins, C. P.....Winona
Rollins, F. H.....St. Charles
Scott, J. W.....St. Charles
Steinbach, John Winona
Stewart, D. A.....Winona
Tweedy, G. J.....Winona

ALPHABETICAL ROSTER

Abbott, A. W.....Minneapolis
Abbott, E. J.....St. Paul
Aborn, Wm. H.....Hawley
Adair, F. L.....Minneapolis
Adair, John H.....Owatonna
Adams, B. S.....Hibbing
Adams, J. C.....Lake City
Adams, J. L.....Morgan
Adams, R. T.....Mantorville
Adams, W. T.....Elgin
Aitkin, H. B.....Le Sueur Center
Aldrich, A. G.....Minneapolis
Alexander, F. H.....Barnesville
Aling, C. P.....Minneapolis
Allen, A. W.....Austin
Allen, Frank H.....Staples
Allen, Mason.....St. Paul
Ancker, A. B.....St. Paul
Anderson, A. E.....Minneapolis
Anderson, C. A.....Rush City
Anderson, J. D.....Minneapolis
Anderson, J. V.....Red Wing
Andrews, J. W.....Mankato
Andrist, James W.....Ellendale
Appleby, E. V.....St. Paul
Archibald, F. M.....Atwater
Arey, H. C.....Excelsior
Armitage, Thos. L. F.....Princeton
Armstrong, J. M.....St. Paul
Armstrong, L. W.....Breckenridge
Artz, C. P.....St. Paul
Aurand, W. H.....Minneapolis
Aurness, P. A.....Minneapolis
Avery, J. F.....Aitkin
Awty, W. J.....Moorhead
Ayers, G. T.....Ely
Aylmer, A. L.....Minneapolis

Babcock, L. W.....Wadena
Backe, Edw.....Kenyon
Bacon, C. G.....Dayton
Bacon, Knox.....St. Paul
Bacon, L. C.....St. Paul
Bacon, R. S.....Montevideo
Bagley, W. R.....Duluth
Baier, Florence C.....Minneapolis
Baker, A. C.....Stephen
Baker, A. C.....Fergus Falls
Baker, A. L.....Kasson
Baker, J. F.....St. Paul
Bakke, O. H.....Minneapolis
Bakke, Ole H.....Blooming Prairie
Balcome, F. E.....St. Paul
Ball, C. R.....St. Paul
Barber, J. P.....Minneapolis
Barck, G. W.....Albert Lea
Barnum, E. E.....Pine City
Barrett, E. E.....Glencoe
Barrett, E. F.....Eveleth
Barsness, Nellie.....St. Paul
Barton, E. R.....Frazee
Barton, G. C.....Minneapolis
Bass, G. W.....Minneapolis
Batchelder, E. J.....New Richland
Batcheller, Oliver T.....Brainerd
Baxter, S. H.....Minneapolis
Bayley, E. H.....Lake City
Beadie, W. D.....Windom
Beard, R. O.....Minneapolis
Beck, W. M.....Hanley Falls
Beckman, E. H.....Minneapolis
Beebe, Warren L.....St. Cloud
Behrens, B. M.....Minneapolis
Beise, R. A.....Brainerd
Bell, J. W.....Minneapolis
Belsheim, A. G.....Aitkin
Belt, W. E.....Dodge Center
Bendeke, Karl.....Minneapolis
Benepe, L. M.....St. Paul
Benham, E. W.....Amboy
Benjamin, A. E.....Minneapolis
Bennett, O. E.....Sanborn
Berquist, K. E.....Cokato
Bertelson, O. L.....Crookston
Berthold, J. L.....Perham
Bessessen, A. N.....Minneapolis
Bettingen, J. W.....St. Paul
Bevans, Charles J.....Minneapolis
Bickford, T. J.....Milroy
Bigelow, C. S.....Dodge Center
Bigelow, Edward E.....Owatonna
Binder, Geo. A.....St. Paul
Bingham, Josephine.....Ruthton
Bishop, C. W.....Minneapolis
Bissell, F. S.....Maple Lake
Bjelland, A. O.....Mankato
Blair, Paul B.....Winona
Blanchard, H. G.....Waseca
Blomburgh, A. F.....St. Hilaire
Bloom, Wm. D.....Minneapolis
Boeckman, M.....Thief River Falls
Boeckmann, E.....St. Paul
Boehm, J. C.....St. Cloud
Bohland, F. J.....Belle Plaine
Bole, R. S.....St. Paul
Boleyn, E. S.....Stillwater
Bolles, D. W.....Brownton
Bolsta, Chas.....Ortonville
Bomberger, F. J.....Mapleton
Bond, J. F.....Wabasha
Bouman, H. A.....Minneapolis
Boyd, C. A.....Lewiston
Boyd, H. J.....Alexandria
Boyer, S. H.....Duluth
Brabec, F. J.....Perham
Bracken, H. M.....St Paul
Braden, A. J.....Duluth
Bradley, C. H.....Minneapolis
Brand, W. A.....Redwood Falls
Brandenburg, F. D.....Mankato
Bratrud, Theodore.....Warren
Bray, C. W.....Biwabik
Brigham, G. S.....St. Cloud
Brimhall, J. B.....St. Paul
Brooks, D. F.....St. Paul
Brown, A. H.....Pipestone
Brown, E. I.....St. Paul
Brown, E. J.....Minneapolis
Brown, Harry.....Rolling Stone
Brown, R. S.....Minneapolis
Browning, W. E.....Caledonia
Brubaker, E. E.....Northfield
Brunelle, A. M.....Cloquet
Brynildsen, H. L.....Vasa
Buckley, E. W.....St. Paul
Budd, J. D.....Two Harbors
Bullen, F. W.....Eveleth
Burnam, C. F.....St. Paul
Burns, M. A.....Milan
Burton, C. N.....Elmore
Burton, O. A.....Albert Lea
Bushey, M. E.....Arlington
Byrnes, W. J.....Minneapolis

Caine, A. F.....Anoka
Caine, C. E.....Morris
Caldwell, D. K.....Milaca
Caley, G. R.....Princeton
Cameron, J. A.....St. Paul
Cameron, William G.....Staples
Camp, James L.....Brainerd
Cannon, Charles M.....St. Paul
Carlaw, C. M.....Minneapolis
Carman, J. B.....Detroit
Carson, J. H.....Duluth
Cary, H. E.....Minneapolis
Cassell, H. E.....Litchfield
Cates, A. B.....Minneapolis
Catlin, John J.....Delano
Catlin, T. J.....Delano
Cavanaugh, J. O.....St. Paul
Chamberlin, J. W.....St. Paul
Chamberlin, W. A.....Waseca
Chance, Norman W.....Little Falls
Chapin, J. S.....Euclid
Chapman, O. S.....Minneapolis
Chapman, T. L.....Duluth
Chapman, W. E.....Litchfield
Cheney, E. L.....Duluth
Chilgren, G. A.....Sauk Rapids
Chilton, E. Y.....Howard Lake
Chowning, W. M.....Minneapolis
Christenson, C. R.....Starbuck
Christie, George R.....Long Prairie
Christison, J. T.....St. Paul
Cirkler, A. A.....Minneapolis
Clark, A. H.....Worthington
Clark, C. L.....White Bear Lake
Clark, C. N.....St. Charles
Clark, H. S.....Glencoe
Clark, T. C.....Stillwater
Clay, E. M.....Renville
Clement, Jno. B.....Lester Prairie
Clement, L. O.....Lamberton
Clifford, T. T.....West Concord
Cobb, W. F.....Lyle
Cochrane, W. J.....Lake City
Cockburn, J. C.....Minneapolis
Cohen, H. A.....Minneapolis
Cole, Herman B.....Franklin
Collins, H.....Duluth
Colvin, A. R.....St. Paul
Condit, W. H.....Minneapolis
Conley, A. T.....Cannon Falls
Conley, H. E.....Cannon Falls
Cook, Paul B.....St. Paul
Coon, Geo. M.....St. Paul
Cooney, H. C.....Princeton
Cooke, W. H.....Minneapolis
Cool, D. M.....Faribault
Cooley, C. O.....Madelia
Corbett, J. F.....Minneapolis
Cosmann, E. O.....Minneapolis
Coulter, Chas. F.....Wadena
Course, Chas.....Verndale
Courtney, Walter.....Brainerd
Coventry, W. A.....Duluth
Cowan, D. W.....Sandstone
Cowing, Phil. G.....Ashby
Cowles, D. C.....Minneapolis
Cox, A. J.....Tyler
Crafts, Leo M.....Minneapolis
Cressey, F. J.....Granite Falls
Crewe, John E.....Rochester
Crosby, J. A.....Minneapolis
Cross, Jno. G.....Minneapolis
Crowe, J. H.....Virginia
Crume, Geo. P.....Minneapolis
Cuff, Wm. S.....St. Paul
Cummings, D. S.....Waseca
Cummings, J. C.....St. Hilaire
Curran, G. R.....Mankato
Cutler, Charles W.....Park Rapids
Cutts, G. A. C.....Grove City
Cyr, A.....Ghent

Dahlquist, Geo. W.....Cokato
Daignault, Oscar.....Benson
Daigneau, F. E.....Austin
Dampier, C. E.....Crookston
Daniels, J. W.....St. Peter
Danielson, K. A.....Twin Valley
Darling, W. H.....St. Peter
Darrow, Daniel C.....Moorhead
Dart, L. O.....Minneapolis
Daugherty, E. B.....Eveleth
Davis, E. J.....Minnehaha
Davis, F. U.....St. Clair
Davis, H. S.....Duluth
Davis, F. W.....Kasson
Davis, H. W.....St. Paul
Davis, J. P.....Hammond
Davis, L. A.....Dalton
Davis, William.....St. Paul
Davison, F. C.....Clara City
Dawson, C. A.....Glyndon
Day, L. W.....Minneapolis
Dearborn, B.....Minneapolis
Dennis, W. A.....St. Paul
Denniston, C. H.....Crookston
Denny, C. F.....St. Paul
Deslauriers, A. A.....Duluth
Desmond, M. A.....Eagle Bend
Detling, F. E.....Duluth
Deziel, G.....Minneapolis
Dimmitt, F. W.....Red Wing
Disen, C. F.....Minneapolis
Dodge, A. A.....Faribault
Dodge Franklin A.....Le Sueur
Donaldson, C. A.....Minneapolis
Donovan, J. J.....Eden Valley
Dorsey, John H.....Glencoe
Doyle, J. W.....Minneapolis
Drake, F. A.....Lanesboro
Dredge, H. P.....Sandstone
Drenning, F. C.....Duluth
Driesbach, N.....Minneapolis
DuPois, Julian A.....Sauk Center
Dudley, H. D.....
.... Cananea, Sonora, Mexico
Dugan, R. C.....Eyota
Dulude, S.....Winsted
Dumas, C. H.....Minneapolis
Duncan, Henry.....Marietta
Duncan, W. T.....Fergus Falls
Dunlop, A. H.....Crookston

Dunn, John B.....St. Cloud
Dunning, A. W.....St. Paul
Dunsmoor, F. A.....Minneapolis
Durgin, F. L.....Winnebago City
Dutton, C. E.....Minneapolis

Earl, Robert O.....St. Paul
Eberlin, E. A.....Glenwood
Eby, C. B.....Spring Valley
Edmunds, I. L.....St.Cloud
Edwards, J. M.....Mankato
Egge, T. S.....Moorhead
Eisengraeber, G. A..Young America
Eitel, Geo. G.....Minneapolis
Eklund, J. J.....Duluth
Erb, Frederick A.....Minneapolis
Eshelby, E. C.....St. Paul
Eustis, Warren C.....Owatonna

Fahey, E. W.....Duluth
Farley, F. X.....Crookston
Farmer, J. C.....McKinley
Farr, R. E.....Minneapolis
Ferguson, Jos. B.....Olivia
Ferguson, J. C.....St. Paul
Ferree, George P..New Paynesville
Fiester, Fannie K.....Austin
Fischer, O. F.....Houston
Fitzgerald, R. J.....Minneapolis
Fjelstad, C. A.....Glenwood
Flagg, S. D.....St. Paul
Fleming, A. S.....Wheaton
Flemming, James.....Cloquet
Fliesburg, O. A.....Minneapolis
Flower, Ward Z.....Gibbon
Forbes, H. J.....Winnebago City
Force, J. F.....Pasadena, Cal.
Fortier, Geo. M. A.....Little Falls
Foster, Burnside St. Paul
Francis, Thos. B.....Edgerton
Franklin, A. J.....Blue Earth City
Frazer, W. A.....Lyle
Freeborn, J. A.....Fergus Falls
Freeman, J. P.....Emmons
Freeman, W. W.....Grand Meadow
Freligh, E. O'B.....Stillwater
Frisbie, Wm.....Mankato
Fritschie, L. A.....New Ulm
Froshaugh, S. J.....Hills
Frost, E. H.....Willmar
Fullerton, Ellen C.....Rochester
Fullerton, W. S.....St. Paul
Fulton, J. F.....St. Paul

Gambell, S. H....Thief River Falls
Gammell, H. W.....Madison
Gates, G. L.....Winona
Geer, E. F.....St. Paul
Geist, Emil S.....Minneapolis
Gemmel, J. E.....Rush City
George, Jas. W.....Aitkin
Gerber, Lou M.....Jasper
Germain, R. T.....Barnesville
Germo, Chas.....Balaton
Giere, E. O.....Madison
Gilfillan, J. S.....St. Paul
Gillette, A. J.....St. Paul
Gilmore, R. T.....Bemidji
Golberg, M. L.....Twin Valley
Goodrich, Judd St. Paul
Gosslee, G. L.....Wabasso
Gould, J. B.....Minneapolis
Gowdy, F. A.....Harmony
Graham, B. F.....Minneapolis
Graham, C.....Rochester
Graham, D.....Duluth
Graham, D. M.....Le Sueur
Graham, R.....Duluth
Granger, Chas. T.....Rochester
Gravelle, J. M. A.....St. Paul
Gray, G. W.....Brownsdale
Greaves, Wm.....Northfield
Greeley, L. Q.....Duluth
Green, C. A.....Windom
Green, E. K.....Minneapolis
Greene, C. L.....St. Paul
Grimes, H. F.....Lake Crystal
Grivelli, C. T.....Young America
Gronvold, F. O.....Gary
Groves, A. F.....Brainerd
Gryttenholm, K.....Zumbrota
Guldseth, Gustave....Battle Lake
Gulick, W. V.....Oronoco
Gunz, A. N.....Centre City

Hack, C. W.....Minneapolis
Hacking, F. H.....Granite Falls
Hagen, H. O.....New Richland
Haggard, G. D.....Minneapolis
Haines, J. H.....Stillwater
Hall, A. R.....St. Paul
Hall, Charlotte St. Paul
Hall, W. A.....Minneapolis
Hamilton, A. R.....Minneapolis
Hanson, Geo. C.....Climax
Hanson, M.....Hendrum
Hard, A. D.....Marshall
Hare, E. R.....Minneapolis
Harrah, J. W.....Minneapolis
Harrington, C. D.....Minneapolis
Harrison, E. E.....West Concord
Hart, A. B.....Canton
Hart, M. J.....Le Roy
Hartzell, Thos. B.....Minneapolis
Harwood, W. E.....Eveleth
Hatch, Theodore L.....Owatonna
Haugan, O. M.....Fergus Falls
Haverfield, Addie R....Minneapolis
Hawkins, E. P.....Montrose
Hawkins, V. J.....St. Paul
Haynes, F. E.....Minneapolis
Head, Geo. D.....Minneapolis
Heath, A. C.....St. Paul
Hegge, C. A.....Austin
Hegge, O. H.....Austin
Heimark, C. B.....Wendell
Heimark, J. H.....Cyrus
Heimark, O. E.....Hawley
Heise, W. F. C.....Winona
Helk, H. H.....Minneapolis
Heimark, J. H.....Roseau
Hemstead, Werner Brainerd
Henderson, A.....Scanlon
Hendrickson, H. W.....Montevideo
Henry, C. E.....Minneapolis
Hensel, E. A.....Alexandria
Henslin, A. E.....Le Roy
Hering, H. H.....Lake Crystal
Hertzman, C. O.....Lindstrom
Hesselgrave, S. S.....St. Paul
Hewitt, C. N.....Red Wing
Higgins, J. H.....Rockford
Hilbert, Pierre A.....Melrose
Hildebrandt, E.....Forest City
Hill, Charles.....Pine Island
Hill, R. J.....Minneapolis
Hirschfield, Adolph.....Minneapolis
Hlrschfield, M. S.....Duluth
Hixon, R. B.....Cambridge
Hoegh, Knut Minneapolis
Hoff, Peder A.....St. Paul
Hoit, Edward E.....Detroit
Holbrook, J. S.....Mankato
Holdridge, Geo. A.....Foley
Holl, P. M.....Minneapolis
Hollister, W. L.....Austin
Holman, C. J.....Mankato
Holman, Madge T.....Mankato
Holte, H.....Crookston
Hopkins, M. P.....St. Peter
Hovde, H.....Duluth
Hovorka, Thos. W.....Silver Lake
Hubert, R. I.....St. Cloud
Hughes, Helen Mankato
Hughes, Jane Mankato
Hulburd, H. L.....Morris
Humiston, Roy.....Worthington
Humphrey, E. H.....Moorhead
Hunt, F. N.....Blue Earth City
Hunt, H. E.....St. Paul
Hunt, W. A.....Northfield
Hunte, A. F.....Truman
Hunter, C. H.....Minneapolis
Hutchins, E. A.....Minneapolis
Huxley, F. R.....Faribault
Hvoslef, Jakob Minneapolis
Hyde, Leon W.....Moorhead
Hynes, James Minneapolis

Ingram, Lawrence....Zumbro Falls
Ingraham, Elizabeth...Minneapolis
Irwin, A. F.....Minneapolis
Jackson, R. N.....Faribault
Jacobs, A. C.....Elmore
Jaehnig, B.....Red Wing
James, J. H.....Mankato
James, P. E.....Hutchinson
Jelstrup, Christian.....Vining
Jern, J. H.....Duluth
Jenckes, H. D.....Pinestone
Jensen, M. J.....Minneapolis
Jensen, T.....Spring Grove
Jewell, E. L.....Pine Island
Johnson, A. E.....Minneapolis
Johnson, A. E.....Cloquet
Johnson, A. Einar.....
Johnson, Asa St. Paul
.....White Rock, S. D
Johnson, Christian Willmar
Johnson, C. H.....Austin
Johnson, Hans.....Murdock
Johnson, H. C.....St. Paul
Johnson, H. M.....Dawson
Johnson, H. P.....Fairmont
Johnson, Otto F.....Winthrop
Jones, A. W.....Red Wing
Jones, D. N.....Gaylord
Jones, Herbert W.....Minneapolis
Jones, S. S.....Frazee
Jones, Talbot St. Paul
Jones, W. A.....Minneapolis
Joyce, Geo. T.....Rochester
Judd, E. S.....Rochester

Kaess, A. J.....Moorhead
Kalinoff, D.....Stillwater
Kanne, C. W.....Arlington
Karn, J.....Ortonville
Kauffman, J. H.....Dassel
Keam, A. P.....St. Paul
Keith, J. R.....Duluth
Kelly, E. S.....Minneapolis
Kelley, T. C.....Garden City
Kelley, W. D.....St. Paul
Kelsey, C. A.....Minneapolis
Kennedy, Jane Minneapolis
Kenyon, Paul E.....Wadena
Kern, Max J.....Freeport
Keyes, C. R.....Duluth
Keyes, E. D.....Winona
Kilbourne, A. F.....Rochester
Kilbride, J. S.....Canby
Kimball, H. H.....Minneapolis
King, Emil Fulda
Kirk, D. A.....Le Sueur
Kistler, A. S.....St. Paul
Kistler, C. M.....Minneapolis
Kistler, J. M.....Minneapolis
Kittleson, Thos. N....Fergus Falls
Kjelland, J. S.....Crookston
Knauff, M. K.....Two Harbors
Knickerbocker, Frank H....Staples
Knights, F. A.....Minneapolis
Knudson, B. C.....Tyler
Koch, John C.....Fertile
Kohler, F. G.....Stewart
Kriedt, Dan'l Minneapolis
Krueger, L. W.....Mapleton

La Clerc, Joseph E.....Le Sueur
Lamb, Harold L.....Sauk Center
Landeen, F. G.....Stillwater
Landenberger, John....New Prague
Lando, D. H.....St. Paul
Lane, N. S.....Winona
Langford, J. J.....Green Isle
Lankester, Howard St. Paul
Lapierre, C. A.....Minneapolis
Laton, W. S.....Minneapolis
Laws, F.....Minneapolis
Leavitt, F. E.....St. Paul
Leck, C. C.....Austin
Lee, C. E.....St. Paul
Lee, J. K.....Minneapolis
Lee, Thos. G.....Minneapolis
Lee, Wm. P.....Fairfax
Leicht, Oswald Winona
Leland, H. N.....Minneapolis
Lemieux, Israel....Red Lake Falls
Lenont, C. B.....Virginia
Lerche, Wm.....St. Paul
Lester, C. A.....Wabasha
Leudtke, G. H.....Fairmont
Leuty, Amos Morris
Lewis, A. I.....Mora
Lewis, C. F.....Austin
Lewis, Edwin J.....Sauk Center
Lewis, J. D.....St. Paul
Lewis, J. M.....Minneapolis
Lewis, W. W.....St. Paul
Lichtenstein, H. M.....Winona
Liedloff, A. G.....Mankato
Lind, A.....Minneapolis
Lind, C. J.....Minneapolis
Linjer, O. E.....Minneapolis
Linnemann, N. L.....Duluth
Linton, Laura.....Rochester
Linton, W. B.....Minneapolis
Little, J. W.....Minneapolis
Litzenberg, J. C.....Minneapolis
Livingstone, J. L.....Wells
Loberg, A. E.....Minneapolis
Lockwood, M. M.....Hallock
Lockwood, S. O.....Minneapolis
Long, Jesse Minneapolis
Love, Geo. A.....Preston
Lowe, T.....Pipestone
Lowthian, G. H.....Hewitt

Lum, C. E.....Duluth
Lumley, W. A.....Renville
Lundgren, C. E.....Harris
Lunanolm, E. M.....St. Paul
Lus, R. B.....Pipestone
Luther, Clara M.....Minneapolis
Lynam, F.....Duluth
Lyman, F. V.....Beltrami
Lynch, J. L.....Winona
Lyng, John A.....Minneapolis
Lynn, J. F.....Waseca
Lyons, A.....Pine City

McAuliff, J.....Duluth
McCarthy, W. J.....Madelia
McCloud, C. N.....St. Paul
McCollom, C. A.....Minneapolis
McComb, C. F.....Duluth
McCord, E. W.....St. Paul
McCoy, Mary.....Duluth
McCuen, J. A.....Duluth
McCullough, George.....Motley
McDaniel, Oriana Minneapolis
McDavitt, Thos.....St. Paul
McDonald, H. N.....Minneapolis
McDonald, I. C.....Minneapolis
McDougald, D. W.....Minneapolis
McEachran, A.....Minneapolis
McEachern, W. A.....Sandstone
McGaughey, H. F.....Winona
McGaughey, J. B.....Winona
McGuigan, Henry Mazeppa
McIntyre, G. W St. Peter
McKenna, W. H.....Austin
McKeon, Jas.....Montgomery
McKeon, Owen St. Michael
McKey, T. F.....Albert Lea
McKibbin, H. E.....Hector
McKinnon, J. J.....Wadena
McKinnon, M.....Fosston
McKinstry, H. L.....Red Wing
McLaren, Jeanette St. Paul
McLean, T. N.....Fergus Falls
McMasters, James M..Sauk Center
McMichael, O. H.....Vernon Center
McMurdy, R. S.....Minneapolis
MacNamara, J. G.....St. Paul
Macdonald, A.....Morristown
Macdonald, Angus St. Paul
Macdonald, J. W.....Minneapolis
MacKenzie, L. F.....Villard
MacLaren, Archibald St. Paul
MacMurphy, Geo.....Ortonville
Macnie, J. S.....Minneapolis
Maercklein, C. J.....Le Roy
Maercklein, O. C.....Adams
Magie, W. H.....Duluth
Malchow, C. W.....Minneapolis
Maloy, Geo. E.....St. Cloud
Mann, A. T.....Minneapolis
Manson, F. M.....Worthington
Maris, Emily Duluth
Markoe, J. C.....St. Paul
Mathieson, G. B.....Evansville
May, C. C.....Adrian
Mayland, M. L.....Faribault
Mayo, C. H.....Rochester
Mayo, W. J.....Rochester
Mayo, W. W.....Rochester
Meade, C. J.....St. Paul
Mead, Marion A.....Minneapolis
Meckstroth, C. W.....Brandon
Mee, P. H.....Gaylord
Melby, O. F.....Warren
Merrill, B. J.....Stillwater
Merrill, J. E.....Amboy
Merritt, Geo. F.....St. Peter
Mesker, G. H.....Olivia
Meyer, Edw.....St. Cloud
Miller, A. W.....St. Paul
Miller, F. C.....Olivia
Miller, Victor I.....Westbrook
Miller, W. A.....New York Mills
Millet, M. C.....Rochester
Millspaugh, J. G.....Little Falls
Mintener, J. W.....Minneapolis
Mitchell, F.....Euclid
Mitchell, L. C.....Minneapolis
Mitchell, R. S.....Grand Meadow
Moen, J. K.....Windom
Moloney, G. R.....Belle Plaine
Moore, J. E.....Minneapolis
Moore, J. T.....Minneapolis
Moore, W. J.....Wood Lake
Morehouse, G. G.....Owatonna
Moorehead, Martha B..Minneapolis
More, C. W.....Eveleth
Morell, Harry Litchfield
Morley, G. A.....Crookston
Morrison, William R.....Bemidji
Morton, H. McI.....Minneapolis
Mosse, F. R.....Rochester
Mortenson, W. S.....Duluth
Mowers, S. W.....Brainerd
Muir, Edwin S.....Winona
Munger, L. H.....Winona
Munger, P. H.....Nicollet
Murdock, A. J.....Minneapolis
Murdock, H. G.....Taylors Falls
Murray, D. D.....Duluth
Murphy, W. B.....Minneapolis
Murray, Wm. R.....Minneapolis
Musgrave, Samuel, Jr., Minneapolis
Muus, Peter H.....Kensington

Nannestad, J. R.....Bricelyn
Nelson, A.....Fertile
Nelson, C. P.....Westbrook
Nelson, H. S.....Minneapolis
Nelson, J. C.....St. Paul
Nelson, L. A.....St. Paul
Nelson, N. A.....Dawson
Neraal, P. O.....McIntosh
Newman, G. A.....New London
Nicholson, Joseph.....Brainerd
Nickerson, B. S.....Glencoe
Nippert, H. T.....St. Paul
Nippert, L. A.....Minneapolis
Nissen, Henrik.....Minneapolis
Nootnagle, Chas.....Minneapolis
Norton, H. G.....St. Paul
Noth, Henry W.....Marine Mills
Novac, E. E.....New Prague
Nuckolls, G. W.....Tintah
Nye, W. F.....Minneapolis
O'Brien, H. J.....St. Paul
O'Connor, J. P.....Delano
O'Connor, J. V.....St. Paul
O'Hair, P.....Waverly
O'Hara, J. J.....Alma City
Odendahl, F. H.....St. Paul
Ohage, J.....St. Paul
Ohnstad, J.....McIntosh
Oliver, C. I.....Graceville
Olsen, O. R.....St. Charles
Olson, O. H.....Erskine
Onsgard, L. K.....Houston
Oredson, O. A.....Duluth
Orton, H. N.....Minneapolis
Osborn, Lida Mankato

Palmer, W. L.....Glenville
Pare, L. T.....Duluth
Parker, E. H.....Minneapolis
Parker, H. G.....Madison Lake
Parker, O. W.....Ely
Parrott, B. W.....Long Prairie
Patton, F. J.....Duluth
Payette, C. H.....Duluth
Pease, Giles P.....Redwood Falls
Penhall, F. W.....Morton
Persons, C. E.....Marshall
Peters, R. M.....Minneapolis
Peterson, J. R.....Willmar
Petit, C. W.....Minneapolis
Phelps, R. M.....Rochester
Phillips, Edwin Minneapolis
Phillips, J. R.....Northfield
Phillips, W. H.....Jordan
Pierson, H. F.....Austin
Pilon, Pierre C....New Paynesville
Pine, A. A.....St. Paul
Pine, O. S.....St. Paul
Pineo, W. B.....Minneapolis
Plondke, F. J.....St. Paul
Plummer, H. S.....Rochester
Poehler, F. T Minneapolis
Polk, Wm. R.....Minneapolis
Porteous, W. N.....Minneapolis
Pratt, W. H.....Stillwater
Pringle, A. F.....Northfield
Pritchard, D. B.....Winona
Putnam, Catherine E.....St. Paul
Putney, Geo. E....New Paynesville

Quinby, Thos. F.....Minneapolis
Quinn, J. A.....St. Paul
Quitmeyer, O. C....Parkers Prairie

Rae, D. F.....Fergus Falls
Rains, J. M.....Willmar
Ramsey, W. R.....St. Paul
Randall, B. M.....Graceville
Ransom, M. L.....Hancock
Ravich, Simon St. Paul
Read, Harry K.....Hibbing
Reay, G. R.....Hokah
Rees, H.....Maynard
Rees, S. P.....Minneapolis
Regner, J. A.....Alexandria
Reineke, G. F.....New Ulm
Reiter, H. W.....Shakopee
Renz, G. A.....St. Paul
Rhines, D. C.....Caledonia
Richardson, W. E.....Slayton
Richardson, W. J.....Fairmont
Ridgway, A. M.....Annandale
Riggs, C. E.....St. Paul
Riley, E. A.....Willow River
Ringnell, C. J.....Minneapolis
Rishmiller, J. H.....Minneapolis
Risjord, J. N.....Fertile
Ritchie, H. P.....St. Paul
Ritchie, Parks St. Paul
Roadman, J. M.....Proctor Knott
Robbins, C. P.....Winona
Roberts, Cora B.....Minneapolis
Roberts, L. M.....Little Falls
Roberts, Thos. S.....Minneapolis
Robertson, J. B.....Cottonwood
Robertson, J. W.....Litchfield
Robillard, W. H.....Faribault
Robinson, J. M....Corning, N. Y.
Robitshek, E. C.....Minneapolis
Rochford, W. E.....Minneapolis
Rodger, E. H. Washburn....Austin
Rodli, O. E.....Albert Lea
Rodwell, T. F.....Cass Lake
Rogers, A. C.....Faribault
Rogers, C. E.....Montevideo
Rogers, G. M. F.....Buffalo
Rogers, H. W.....Montevideo
Rogers, Jno. J.....Minneapolis
Rogers, J. T.....St. Paul
Rollins, F. H.....St. Charles
Rood, D. C.....Hibbing
Rose, F. M.....Faribault
Rothenberg, J. C.....Springfield
Rothrock, J. L.....St. Paul
Rowe, W. H.....St. James
Roy, Philemon St. Paul
Rumpf, W. H.....Faribault
Rutledge, J. W.....Minneapolis
Ryan, E. P.....Stillwater

Salter, W. H.....Duluth
Sanford, James A.....New Market
Savage, Francis J.....St. Paul
Sawyer, H. P.....Goodhue
Schadle, J. E.....St. Paul
Schefcik, F. C.....Minneapolis
Schefcik, John F.....Hutchinson
Schjelderup, N. H....Granite Falls
Schlick, A. T.....Duluth
Schmauss, F. L.....Mankato
Schmitt, A. F.....Mankato
Schmitt, S. C.....Blue Earth City
Schneider, H. A.....Jordan
Schoch, J. L.....New Ulm
Schottler, G. J.....Dexter
Schrader, J. S.....Springfield
Schultz, A. J.....Dundee
Schultz, F. W.....Waltham
Schulze, Geo.....Owatonna
Schwyzer, Arnold St. Paul
Schwyzer, G.....Minneapolis
Scofield, C. L.....Benson
Scott, J. W.....St. Charles
Searles, S. S.....Lakefield
Seashore, D. E.....Battle Lake
Seashore, Gilbert Minneapolis
Seeley, J. S.....Faribault
Seguin, Edwin Buckman
Senkler, Geo. E.....St. Paul
Serkland, J. C.....Rothsay
Sessions, J. C.....Minneapolis
Shaleen, Arthur W.....Hallock
Shannon, E. A.....Buffalo
Shaw, A. W.....Duluth
Shelden, W. D.....Minneapolis
Sheppard, Fred.....Hutchinson
Sheppard, P. E.....Hutchinson
Sherping, O. Th.....Fergus Falls
Sherwood, Geo. E.....Kimball
Shimonek, Anton St. Paul
Shipman, C. G.....Ely
Shrader, E. E.....Watertown
Simpson, Chas.....Minneapolis
Simpson, J. D.....Minneapolis
Slagle, C. G.....Minneapolis
Slippern, H.....Fosston
Slocumb, J. A.....Plainview
Smersh, F. M.....Owatonna
Smith, C. A.....Minneapolis
Smith, D. D.....Mankato
Smith, D. E.....Minneapolis
Smith, H. O.....Shakopee
Smith, H. W.....Crookston
Smith, L. G.....Foxhome
Smith, P. A.....Faribault

Sneve, Haldor St. Paul
Soderlind, A.....Minneapolis
Sohlberg, O.....St. Paul
Spalding, A. E.....Luverne
Spratt, C. J.....Minneapolis
Spratt, C. N.....Minneapolis
Staley, J. C.....St. Paul
Staples, H. L.....Minneapolis
Steel, E. D.....Mankato
Steinbach, John.....Winona
Stemsrud, A. A.....Dawson
Stephan, E. L.....Hinckley
Stenberg, Oscar.....North Branch
Steven, Geo.....Byron
Stevens, C. C.....Jasper
Stevens, F. A.....Lake Elmo
Stevenson, Geo. A.....Albert Lea
Stewart, Allan B.....Owatonna
Stewart, C. A.....Duluth
Stewart, D. A.....Winona
Stewart, J. Clark.....Minneapolis
Stierle, Adolph, Jr....Two Harbors
Stinchfield, A. W.....Rochester
Stocker, S.....Duluth
Stoddard, A. G.....Fairfax
Stone, W. T.....Park Rapids
Storch, J. W.....Grand Rapids
Strathern, F. P.....St. Peter
Stratton, W. M.....Granite Falls
Straub, C. O.....Minneapolis
Strech, E. D.....Duluth
Strickler, A. F.....Sleepy Eye
Strickler, O. C.....New Ulm
Strout, E. S.....Minneapolis
Strout, G. E.....Winthrop
Stuart, J. H.....Minneapolis
Stuhr, H. C.....Argyle
Sullivan, M.....Adrian
Swartz, W. J.....Forest Lake
Swartwood, F. A.....Waseca
Sweeney, Arthur St. Paul
Sweetser, H. B.....Minneapolis
Sweney, C. F.....St. Paul
Taustrom, Ingeborg....Center City
Taylor, A. C.....Duluth
Taylor, C. W.....Duluth
Taylor, H. L.....St. Paul
Taylor, M. J.....Janesville
Taylor, Wm. J.....Pipestone
Tessler, M.....St. Paul
Thabes, J. A.....Brainerd
Tharldsen, Thorp.....Cottonwood
Theissen, W. N.....Henderson
Thimsen, N.....Hayfield
Thomas, D. O.....Minneapolis
Thomas, Geo. H.....Minneapolis
Thomas, O. F.....Lakeland
Thordarson, Th.....Minneota
Thorkelsen, Thorvald...Minneapolis
Thrane, M.....Madison
Tibbitts, J. I.....Wayzata
Tilderquist, D. L.....Duluth
Tillisch, Henrik.....Canby
Tingdale, A. C.....Minneapolis
Tinker, C. W.....Stewart
Titus, J. H.....Sacred Heart
Titus, W. S Mora
Todd, F. C.....Minneapolis
Todd, W. E.....Albert Lea
Tomlinson, H. A.....St. Peter
Torgerson, W. B.....Clarkfield
Tower, J. B.....Hibbing
Towers, F. E.....Minneapolis
Towers, Mary E.....Minneapolis
Trace, O. C.....Little Falls
Truax, W. E.....Breckenridge
Tufty, J. M, O.....Duluth
Tweedy, G. J.....Winona
Twiford, William H.....Owatonna
Ulrich, Henry L Minneapolis
Valentine, W. H.....Tracy
Valin, H. D.....St. Peter
Van Cleve, Samuel H...Minneapolis
Van Slyke, C. A.....St. Paul
Van Slyke, F. W.....St. Paul
Van Valkenberg, B. F.....
.....Long Prairie
VanderHorck, M. P....Minneapolis
Vibrance, C. G.....Watkins
Vieregge, J. A.....St. Paul
Vigen, J. G.....Ferous Falls
Vinje, Syver.....Henning
Vistaunet, P. L...Thief River Falls
Vittum, W. H.....St. Paul
Vogel, J. H.....New Ulm
Vollmer, Jos.....Hutchinson
Von Berg, J. P.....Albert Lea
Wakefield, Kee.....Hutchinson
Wakefield, Wm.....Lake Benton
Walker, A. E.....Duluth
Walker, F. E.....Worthington
Walrath, Belle St. Paul
Walsh, E. F.....St. Paul
Wang, A. M.....Minneapolis
Wanous, E. L.....Minneapolis
Warham, T. T.....Vernon Center
Warham, Thos. T....Minneapolis
Warne, E. G.....St. Paul
Warren, F. S.....Faribault
Waste, J. P.....Plainview
Watson, Charles W.....Boyd
Watson, F. G.....Clarkfield
Watson, John.....St. Louis Park
Watson, J. A.....Minneapolis
Watson, N. M.....Red Lake Falls
Watson, T. R.....Zumbrota
Wattam, G. S.....Warren
Way, O. F.....Clairmont
Webster, I. D.....Mankato
Wedge, A. C.....Albert Lea
Weeks, L. C.....Detroit
Weidow, Henry.....Worthington
Weiser, F. R.....Windom
Weiser, G. B.....New Ulm
Weisman, R. L.....Pine City
Wellner, G. C.....Red Wing
Wells, E. E.....Stillwater
Werner, O. S.....Lindstrom
Wesbrook, F. F.....Minneapolis
Weston, C. G.....Minneapolis
Weston, J. B.....Duluth
Weyrens, P. J.....Ivanhoe
Wheat, F. C.....Ellsworth
Wheaton, C. A.....St. Paul
Whetstone, Mary S....Minneapolis
Whipple, C. D.....Minneapolis
Whitacre, J. C.....St. Paul
Whitcomb, A. L.....St. Paul
Whitcomb, E. H.....St. Paul
White, J. B.....Faribault
White, S. M.....Minneapolis
Whiting, Arthur D.....St. Cloud
Whiting, I. F.....Spencer Brook
Whitman, A. F.....St. Paul
Whitney, A. W.....St. Paul
Whyte, J. J.....Bertha
Wier, J. D.....Beardsley
Wilcox, Archa E.....Minneapolis
Wilcox, F. L.....Walker
Wilcox, H. H.....Albert Lea
Wilcox Van H.....Minneapolis
Wilkinson, John Clinton.....
.....Red Lake Falls
Wilkinson, S.....Duluth
Williams, C.....St. Paul
Williams, C. W.....Minneapolis
Williams, H. L.....Minneapolis
Williams, Jno.....Lake Crystal
Williams, Robt.....Alden
Williams, U. G.....Minneapolis
Wilson, W.....Northfield
Wilson, W. F.....Lake City
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Witherstine, H. H.....Rochester
Wolner, O. H.....St. Cloud
Wood, E. S.....St. Paul
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THE USE OF INSTRUMENTS OF PRECISION IN THE DIAGNOSIS OF UNILATERAL DISEASE OF THE KIDNEY AND URETER*

By A. W. Abbott, M. D.

MINNEAPOLIS

Calculus, pyelitis, tuberculosis, stricture, pyonephrosis, cysts, adenoma, carcinoma, sarcoma, hypernephroma, and even chronic interstitial nephritis, are found with varying frequency on one side of the body. The possibility, we may even say the probability, that many of the acute, as well as chronic inflammations of the kidney, especially in their early stages, now always referred to as bilateral, will occasionally be found to be one-sided, is another reason why the diagnosis of unilateral disease becomes a very important subject. We must also not forget that it is as much to the advantage of our patient to find one healthy kidney as one diseased. Chemistry and the microscope, while of great value in deciding whether certain symptoms have their origin in lesions of the urinary tract, afford no clue as to whether the disease is unilateral or not. Pain, tenderness, change of size and form, afford a certain amount of information, which is, however, not always reliable. Thornton, and others, cite cases where the pain was referred to the healthy kidney, instead of the one with stone, and many of us have observed an enlarged healthy kidney on one side and an atrophied remnant of a diseased kidney on the other. Attention has, therefore, been directed to devising means not only for getting the urine separately from each kidney for examination, but also for using direct touch and sight for the finding of the exact location of the disease. Experiment along this line has at length developed the cystoscope, the ureteral catheter, and the segregator. The skiagraph has also been adopted as an aid to the localizing of stone and foreign bodies. We shall, therefore, discuss the principles involved in the use of these instruments of precision, the difficulties in their employment, and illustrate their application by a brief citation of cases.

The X-ray.—The *x*-ray is of use only for the detection of and localization of stone and foreign bodies. The greatest skill of an expert with the best appliances is, however, absolutely essential for reliability. The common experience is that, under any but exceptional advantages, stones are found that do not exist, or stones that do exist are missed entirely. The *x*-ray should not be depended upon alone, but to corroborate the evidence of clinical findings.

The Cystoscope.—To Nitze belongs the credit of giving us positive information of the condition of the bladder. Howard Kelly has given us the best method for examining the female blad-

*Read before the Minnesota State Medical Association, June 1, 1905.

der. These two instruments are constructed on entirely different principles. All others are but modifications of one of these. In the Nitze, water is used to distend the bladder, and while the light is thrown directly upon the bladder wall, the line of vision is refracted from the same surface by prisms. In the Kelly cystoscope the distension is by air, secured by posture, and the light and vision are both direct. In the male the Nitze gives the best result. In the female the Kelly, with a cold electric light at its distal end, is incomparably the best under all ordinary conditions, except for ureteric meatoscopy.

The cystoscope not only discloses all inflammatory and ulcerative processes, tumors, stones, and foreign bodies in the bladder, but also gives us important indications as to the kidneys and ureters. Blood and pus trickling from the ureteral orifices, ulcerations, erosions, pouting, edema, and distortion of these openings, prove disease above the bladder. It makes the introduction of the ureteral catheter possible in the male, and easy in the female; and, finally, affords the best way yet known of obtaining the uncontaminated urine from one kidney only.

The bladder must be moderately distended in order to make the cystoscope effective; hence, in bladders contracted by chronic inflammation, or distorted by outside contractures or by the presence of tumors, satisfactory cystoscopy is difficult, and may be impossible. Fortunately, these cases are very rare, because when the cystoscope cannot be used, all the other methods for internal examination, without exploratory incision, are impracticable—the segregator cannot be used, nor can ureteral catheters be introduced.

In many cases in females, where the ordinary atmospheric pressure, on which the Kelly cystoscope depends for effectiveness, is not sufficient to overcome the bladder contraction, the use of a cystoscope like the Nitze, using fluid for distension, or some of the cystoscopes, like the Lewis, using forcible air inflation, may be of great service.

I regard the use of the cystoscope as a segregator as one of its most useful functions. An open instrument must, of course, be used with the bladder distended by air. The distal end must be beveled, not cut square. The Kelly tube, with a beveled extremity, or the Lewis cystoscope should be used. The bladder is emptied and thoroughly washed out, the patient is then placed in the knee-chest position, and the mouth of the cystoscope placed directly under the ureteral orifice. The cystoscope is now washed out while its end is held against the bladder wall. The urine, as it flows from the ureter, drips down through the tube of the cystoscope, and is collected in a vessel held under it. By this method the ureter and its orifices are not in any way disturbed, and the urine is obtained, just as it flows from the ureter, without contamination. During this procedure it is very necessary to caution the patient not to make a violent expulsive effort, as in that case the urine that has collected in the bladder from the other kidney is likely to be thrown into the cystoscope and to mix the two urines. I have, in one or two instances, passed a small catheter alongside of the cystoscope, and so kept the bladder free, and collected the urine from the other side as well. In using the cystoscope in this way, if an electrically lighted instrument is used, it is necessary to keep the urine away from the electric wires, as it will otherwise short circuit and put out the light. I have had the electric connections in the instrument that I use so changed that this trouble is avoided.

The use of the cystoscope for ureteric meatoscopy is in its infancy. Harry Fenwick, of London, has given much attention to the subject, and has gathered a good deal of very instructive detail. While his conclusions, as he admits, are hardly more than indicative, they are, even so, of great value as giving direction to our observations. The great point which he makes, and which is well established, is that there is pretty constant relation between the condition of the ureteral orifices and that of the corresponding kidney and ureter. Experience also confirms his view that a large round orifice with thickened edges denotes extra expulsive effort of the kidney or ureter, due generally to stone or tuberculosis, and that a small puckered orifice denotes old or past inflammation above the bladder. It must be remembered, however, that all observers agree that in many cases of positive disease of the kidney the ureteric orifice may appear entirely normal.

Ureteric meatoscopy seems to be of greatest value in inflammatory conditions of the kidney,

especially when combined with inflammation of the ureter. Benign and malignant growths in a kidney may show bleeding at the corresponding orifice, but no enlargement or other change of the orifice itself. The segregator, with the clinical history, is usually sufficient to establish the presence of tumors of the kidney.

The cystoscope, segregator, or ureteral catheter, or all of them, may be needed to differentiate right kidney disease from gall-stones, appendicitis, or ovarian pain. In rare instances these means have to be employed to distinguish left kidney disease from lesions of the spleen. When, on account of thickening, misplacement, or new growths in the vicinity, the orifice cannot be found, coloring the urine with methylene blue will generally discover its position. Absence of blue may signify a total occlusion of the ureter, a destroyed kidney, or a more or less permanent loss of function, due to nervous interruption. The amount and character of the flow of urine will also afford some information, as determined by the cystoscope. A weak trickling fluid indicates an enfeebled kidney function, or a partial obstruction of the ureter. A strong spurting flow, an over-active kidney, and increased peristalsis of the ureter. A bloody flux shows chronic interstitial nephritis, stone, tuberculosis, or new growths; the slight tinging favors nephritis, quiet stone, or early tuberculosis. Clear blood, with clotting, is quite significant of malignant disease. A purulent flow, without blood (microscopically determined) indicates a pyelitis or pyonephrosis, and practically excludes stone, malignant disease and tuberculosis.

The Segregator.—The principle involved in this instrument is the division of the bladder by a lever into lateral pockets from which the urine is drained as it comes from each ureter. There are two ways for accomplishing this: one by an internal lever which depresses the lower bladder wall—the Luys segregator represents this type; in the other form, the Harris, the bladder is divided by an external lever which elevates the middle line of the bladder, and so forms the pockets into which the perforated ends of the two catheters dip. This is the Harris intrument. I have never used the Luys separator, but should say that on all theoretical grounds, the Harris instrument is incomparably better, and that certainly it works well practically. The segregator, however, cannot be used when internal or external tumors, a very large prostate, or inflammatory contractions distort the bladder. Its use is unsatisfactory when an easily bleeding ulcer or growth occupies the site of a ureteral orifice. In women a retroflexed uterus will generally so lower the posterior part of the bladder that the urine will collect behind the pockets instead of draining through the catheters.

The urine drawn by the segregator occasionally contains albumin, but no red-blood cells, while that obtained just before by the catheter from the bladder is entirely free. For a long time I was unable to account for this, but am now convinced that it is due to the presence of blood serum exuded on account of the slight traumatism of the bladder by the segregator. This I demonstrated in the following way in a patient whose bladder urine by the catheter contained no albumin, but did contain albumin by segregator: I obtained the urine by the cystoscope direct, and this was free of albumin. I have repeated the experiment with like results. Rough manipulation of the kidney between the catheterization of the bladder and use of the segregator will sometimes bring about the same confusing condition. The presence of albumin in urine obtained by the segregator from both kidneys may be disregarded if the urine obtained just previously by catheter contains none.

If the urine from the bladder contains albumin, and the segregator shows albumin from one side only, that side will show twice as much albumin as the bladder urine. If, however, the bladder urine contains albumin, and both sides show albumin by the segregator, but one much more than the other, it is quite possible that the side containing the larger amount is the only diseased side. In this case the cystoscope should be used as a segregator, if possible, to confirm the finding, as the urine obtained by the cystoscope does not provoke the exudation of albumin like the segregator.

The segregator, under proper conditions, has the advantage over the cystoscope, used as a segregator, of being less painful and much less tiresome to the patient.

The ureteral catheter is a dangerous instrument. The necessity for its use is much more

limited than has been considered essential, and should, for diagnostic purposes, be used only to prove ureteral stricture, to separate the urine, and to demonstrate stone when other means have failed. It often happens that it cannot be used when most needed. In separating the urine the catheter is needed only under conditions which usually prohibit the use of the segregator or the cystoscope used as a segregator, *i. e.*, when there is great distortion of the bladder, a condition which renders the finding of the ureteral orifices difficult or impossible—the very condition, also, under which the catheter cannot be used. I would admit one exception to this rule: when a tubercular ulcer surrounds the orifice whose corresponding kidney is under investigation, and the other proved to be diseased. In this case we may have to resort to the catheter, but it need not, and should not, be introduced more than three-fourths of an inch. The wax-tipped catheter or bougie of Kelly, while extremely ingenious, is very rarely a necessity for the location of stone, the history and physical signs, with the segregator, and perhaps the *x*-ray, usually sufficing. The best ureteral catheter will injure the ureter, and urine taken with it always contains blood. Its use is permissible when it is necessary to locate an obstruction in the ureter, and in the male when the orifice can be found, but the bladder is too distorted to use the segregator. It can be used in differentiating a kidney cyst from hydronephrosis, but this is possible only when a catheter can be made to pass the obstruction, and is usually unnecessary. Of course, if the surgeon does not have a cystoscope that can be used as a segregator, or if for any reason the patient cannot assume the knee-chest position, he may be compelled to use the ureteral catheter when he would not under more favorable conditions.

The records of a few cases briefly stated will ilustrate the application of these helps to diagnosis and also show some of the difficulties and disappointments attending their use.

CASES

Case 1. Mrs. C., aged 28. Athlete. No symptom whatever, except urine loaded with pus for fourteen years after diphtheria.

Palpation: Negative.

Urinalysis: Albumin present: sp. gr. 1815; urea, .04.

Microscopy: Pus present; blood absent; T. B. absent.

Culture: Negative.

Guinea Pig: Negative.

Cystoscopy: Bladder and orifices normal.

Segregator: Right kidney normal; left kidney pus (pea soup). No T. B.

Ureteral catheter: No obstruction in either ureter.

Diagnosis: Right kidney healthy; left kidney, old pyonephrosis, with contraction—probably obsolete tuberculosis.

Case 2. Mrs. C., aged 40. Kidney aches two years—no crises.

Palpation: Right kidney enlarged one-half, tender, and hard.

Urinalysis: Albumin present—acid.

Microscopy: Blood and pus cells present; T. B. negative.

Segregator: Right kidney, pus present, blood few cells; left kidney normal.

Cystoscopy: Bladder surface normal except trigone reddened. Right orifice congested and pouting; left orifice normal.

Ureteral catheter: Result same as segregator, except blood from both.

Diagnosis: Left kidney normal; right kidney, large immovable stone, with pyelitis.

Confirmed by operation: Large stone weighing two ounces and branched into calices.

In these cases the ureteral catheter afforded no additial information, and should not have been used.

Case 3. Miss F. Painful and frequent urination for three years. Urine never bloody.

Palpatation: Left kidney large and tender.

Urinalysis: Albumin present; urine acid.

Microscopy: Blood and pus; no T. B.

Guinea pig: Negative.

Segregator: Right kidney normal; left kidney, pus present; some blood.

Ureteral catheter: Same result.

Cystoscopy: Punctate ulcers about both orifices, and large ulcer near right orifice. A year later cystoscope showed large ulcer healed, but a smaller one surrounded the left.

Nephrotomy with fistula resulting. Later nephrectomy—microscopic section showing positive old tubercular process. Some thirty examinations were made in the case for T. B., and also one guinea-pig inoculation, but T. B. were never found. This case shows the difficulty of finding T. B. in some cases and also that tubercular ulcers near the orifice of a uterer may heal during a tubercular process in the corresponding kidney, and that a tubercular ulcer around an ureteral orifice does not necessarily indicate a tubercular disease of that kidney.

This also is one of the cases in which it is proper to use the catheter, because the segregator is very likely to give false evidence in this case, as there was, at one time, an ulcer surrounding the healthy orifice. In such a case the segregator should be very likely to show blood, T. B., and perhaps pus, even if the corresponding kidney was healthy.

Case 4. Miss H. Frequent urination; blood and pus in urine; T. B. numerous; duration of symptoms only five weeks.

Cystoscopy: Slight redness about orifices; more marked in right. Flow apparently normal.

Segregator: Both kidneys blood; the right T. B.; left negative.

Being still in doubt I introduced the catheter in left orifice. Result negative as to T. B. This catheterization brought on a pyelitis, and suggested to me the use of the cystoscope as a segregator.

Diagnosis: Right tubercular kidney; probably healthy left kidney.

Operation: Right nephrectomy. Broken down tubercular focus in right kidney: advanced tubercular disease of right ureter.

Subsequent history: General health good; urine normal as to T. B.

The use of the cystoscope in this case, instead of the catheter or segregator, would have given me surer evidence, and I should not have endangered the life of my patient by bringing on a pyelitis with the catheter.

This case also illustrates the fact that extensive tubercular disease of the kidney and ureter may exist without any widening or thickening of the corresponding ureteral orifice.

Case 5. Mrs. C. Crisis of loin pain every month or two. No other symptoms.

Palpation: Right kidney slightly tender.

Urinalysis: Sp. gr. 1,000 to 1,004; blood, few cells; pus 3 to ¼ field, albumin present.

Cystoscopy: No enlargement or pouting of either orifice; both orifices appeared to be alike and normal.

Segregator: Right, 2 cc; left, 6 cc. Albumin twice that of bladder urine. Pus, 3 to ¼ field. Blood, very few cells.

Skiagraph by Dr. C. D. Harrington gave a very good shadow in right kidney pelvis.

Diagnosis: Immovable stone in right kidney pelvis confirmed by operation.

Case 6. Mrs. P. Frequent swelling and pain in left lumbar region, frequent urination, no bladder pain. Generally followed by large flow of urine. Attacks always immediately subsided with subsidence of swelling on administration of morphine or chloroform.

Palpation during attack: large tense tumor in left loin, dull, fluctuation not evident. During interval both kidneys movable; neither enlarged.

Cystoscopy: Bladder and orifices normal.

Segregator: During attack, right, 20cc. in twenty minutes; left, none.

Ureteral catheter: During attack right passes three inches deeper than left. Urine passes freely from right; none from left.

Diagnosis: Hydronephrosis from kink in left ureter. Confirmed by operation. Nephrotomy and dividing the adhesions kinking the ureter. No recurrence after five years.

This is a case in which close diagnosis could not be made without the ureteral catheter.

Incidentally, I may mention that the catheter was of great assistance in locating the exact point of bending in the ureter at the time of operation.

Case 7. Mrs. T., Aged 45. Indefinite history of bladder trouble for three years. Frequent urination. Pain in left pelvis and loin constant, with exacerbations.

Palpation: Right kidney normal. Left kidney normal in size, and slightly tender.

Urinalysis: Albumin and a few pus cells; no T. B.

Cystoscopy: Right orifice small and puckered.

Diagnosis: Obsolete pyelitis and ureteritis, with stricture of ureter ¾ inch above orifice. Operation, gradual dilatation of stricture with complete relief.

This case illustrates one of the proper uses of the ureteral catheter, as also the following one.

Case 8. Mrs. D. Weak, nervous; has lost flesh; no particular pain. Both kidneys normal in size; not tender; very movable.

Urinalysis: Urine normal, only 14 ounces daily; sp. gr. 1,030.

Cystoscopy: Bladder and orifices normal.

Segregator: Right, no urine; left 16 cc. in 20 minutes.

Segregation repeated twice—once for an hour—same result. Catheter passed easily into both ureters.

Diagnosis: Right kidney inactive from unknown cause, certainly not obstruction of the ureter.

Operation: Right nephropexy with kidney incision.

Result, as shown by the segregator three weeks after operation about 14 cc. in 20 minutes from each kidney.

Case 9. Miss F. General health considered fair; no symptoms until three days before operation; then pain and swelling in left groin with temperature 103° F.

Palpation: Tumor 6x4 inches deep in left pelvis. Right kidney very movable; left could not be found.

Urine: Normal.

Cystoscope: Could not be used on account of the distortion of the bladder by tumor; hence, also, neither catheter nor segregator could be used.

Diagnosis: Probable suppurating intraligamentous ovarian cyst.

Segregator: Right, 30 cc. urine in 20 minutes, no albumin or pus; left, 5 cc. urine in 20 minutes, albumin and a few pus cells.

Ureteral catheter: Right passed to kidney easily; left tightly gripped by ureter ¾ inch above the orifice.

Operation revealed suppurating congenitally misplaced kidney, with recent obliteration of ureter.

This case is one of those in which neither the cystoscope, catheter nor segregator can be used on account of the distortion of the bladder by a tumor.

Case 10. A case illustrating the source of error in the use of the segregator in retroflexion of the uterus.

Mrs. C. Uterus retroflexed. Segregation attempted. Flow delayed; then came in streams, sometimes from one and then from both sides of segregator. Uterus replaced, and Albert Smith pessary inserted. Segregation again attempted, and again a failure, because sides of pessary held up the bladder wall so that the segregator could not form the pockets.

Separation finally accomplished by removing pessary and using the cystoscope as a separator.

Case 11. Mrs. R. Six years "drawing" pain in right loin, absent for a year at a time at first, lately more frequent, and now pretty constant. Frequent urination.

Urine: No albumin; no blood; pus averaged 17 cells to ¼ inch field, unsedimented.

Cystoscopy: Orifices rather large, bladder normal.

Segregator: Right kidney, no urine; left, 7 cc. in 15 minutes; no albumin; very few pus cells, and granular casts.

Ureteral catheter passed only ¾ inch in right ureter.

Diagnosis: Right, pyelitis and partial occlusion of ureter; left, normal, but not very active.

Operation: Nephrectomy, showing extensive perinephritis of right kidney, pyelitis and thickening of ureter with stricture. Microscopic section showed chronic interstitial nephritis.

This case, also, I believe to be a proper one for the use of the ureteral catheter. The greater amount of pus in the general urine, and the smaller amount obtained by segregator, was probably due to sudden emptying of a saccule of the ureter just above the stricture.

DISCUSSION

Dr. M. C. Millet (Rochester): I have but little to add to Dr. Abbott's excellent paper. One point I wish to make, and that is the ease of examining the female bladder and the male with the same instrument.

For instance, if you use water dilatation to examine the male bladder and use the Kelly method to examine the female bladder, you have two pictures to keep in mind, while it is perfectly easy to examine, with the same instrument, the female and the male bladder with either the open instrument or the water dilation. The Kelly method is objectionable to me because of the pain. Every bladder is subjected to the pressure of the atmosphere, so it is hard to produce pressure without producing a corresponding amount of pain. For that reason I do not employ that method.

I am glad to hear Dr. Abbott recommend the segregator. It has been a very useful instrument, and will continue to be in spite of the other instrument.

In regard to the use of catheterization, there are cases of hematuria accompanied by bladder trouble and those in which there is no bladder trouble, in which catherization is perfectly legitimate, provided you cannot secure results with the segregator. In cases of infection where it would be dangerous to use an instrument, one can certainly do no harm by catheterizing the one side, and it will prevent the infected urine from entering the bladder, and will get the urine from the other kidney.

URTICARIA*

By M. A. Desmond, M. D.

EAGLE BEND, MINN.

The subject of urticaria is always an interesting one to the general practitioner, it being a troublesome skin disease to combat.

The smallest things in our work sometimes offer the greatest obstacles. Who is there among us who has not had this common question asked him? "Doctor, can you do anything for hives?" Urticaria is defined as an eruption consisting of rapidly formed evanescent wheals accompanied by burning and tingling. It is derived from the word *urtica,* meaning a nettle. It is a common disease, attacking forty-four per one thousand. There are four principal varieties, viz., u. acuta, u. chronica, u. papulosa, and u. pigmentosa; and there are several sub-varieties, the most important of which are u. tuberosa, u. bullosa, u. hemorrhagica, u. factitia, and circumscribed edema.

The mere nomenclature of these several varieties is a sufficient description in itself, so I shall not attempt further elaboration. The varieties and sub-varieties depend on the size, contents, and duration of the wheals.

Symptoms.—In an ordinary case the eruption comes out suddenly, either without any warning or preceded by burning and tingling in the skin and sometimes by febrile symptoms. The lesion consists of firm, circumscribed, flatly convex elevations of the skin, from a quarter to an inch in diameter, the majority being about the size of the finger-nail. They are at first red, and as they develop they become white in the center, leaving a red border, or they may stop at the red stage.. Their formation and presence are attended with burning, tingling, and itching, sometimes slight, but usually so severe as to cause vigorous scratching. The temporary relief so afforded is liable to cause the formation of fresh wheals, which develop in a few minutes and last from an hour to a day or even several days, and then disappear without desquamation or other sign of their presence. The itching is usually more troublesome at night, for then the patient is not hindered by clothing, and can more easily reach the parts, with a consequent development of fresh wheals. In children this causes many a restless night, not only for themselves, but for the mother as well.

The eruption is never symmetrical, the wheals having no definite arrangement, and they vary in number from one or two, to sufficient to cover more or less completely the entire body including the mucous membranes of the mouth, tongue, pharynx, air passages, and stomach. Dyspnea and vomiting have sometimes been associated with the skin eruption. Temporary albuminuria has been noted, and occasionally cerebral symptoms.

In u. factitia, owing to the excessive irritability of the cutaneous nerves, wheals can be excited by local irritation. Letters can be written on the patient with the finger-nail or with a pointed instrument, and in a minute or two the white letters, with pink borders, stand out on the skin. This is called dermographism or autographism.

*Read before the Upper Mississippi Medical Society, September, 7, 1905.

Etiology.—Neither age nor sex brings immunity, but it is more common in the female and in infants and children than in adults, and more common in the summer months. Under the direct or local irritants come the stinging nettle, insect bites, such as fleas, bugs, mosquitoes, bees or wasps, etc., and violent scratching from any cause, electrical currents to the skin, poultices, and sudden changes of temperature. Indirect irritation acts chiefly through the alimentary canal, which may be healthy or unhealthy at the time. Other causes are as follows:

1. Certain articles of food may excite it, such as shell fish, crabs, oysters, mussels, etc. Certain kinds of meat, especially pork and sausages. Fruit, such as strawberries and bananas; and nuts, such as almonds, etc. Mushrooms and branny food, such as porridge and oatmeal may excite it.

2. Medicines of many kinds, especially cubebs, copaiba, quinine, mercury, morphia, turpentine, salicylic acid, valerian, chloral, etc. The hypodermic injection of diphtheritic antitoxin is sometimes followed by a violent urticaria, and certain odors may also excite it.

3. Worms are a common cause in children, but the main cause in them is chronic intestinal catarrh, commencing often in early infancy and persisting for years from want of treatment. The absorption of hydatid fluid may cause it. It has followed the tapping of a pleuritic effusion. In most of these causes there is a predisposing idiosyncrasy on the part of the patient. Gouty diathesis is a predisposing cause, probably from its association with acid dyspepsia; in fact dyspepsia, however induced, is one of the commonest factors. Disorders of the uterus and ovaries may cause it. Some women have urticaria just before each menstrual period, others have it at each pregnancy, and others have it during lactation. It is associated with many cases of asthma and gall-stone colic. It is also seen in certain diseases of the nervous system, such as neuralgia, locomotor ataxia, and emotional conditions.

Pathology.—Everything in urticaria points to its being primarily a vasomotor disturbance, direct or reflex, central or peripheral. The accepted theory is this: A spasmodic contraction is followed by a paralytic dilatation of the vessels, and stasis or retardation of the circulation in the papillary layer. Serous exudation then ensues, producing acute edema, which lifts up the epidermis into a wheal. This is pink at first, but as the fluid increases, the blood is pressed out at the center, which becomes white while the periphery is all the more hyperemic.

Diagnosis.—The sudden evolution and transatory duration of white or pink itching or tingling elevations, or wheals, are quite characteristic, and even when there is no eruption when the patient is seen, an eruption which comes and goes at short intervals can scarcely be anything but urticaria.

Prognosis.—Acute urticaria usually gets well in a few days, but some cases go on into the chronic form, if untreated. The prognosis of the chronic form depends largely on the possibility of removing or avoiding the cause.

Treatment.—An acute attack due to irritating ingesta, if seen sufficiently early, is best treated by an emetic, and followed at a later period by saline aperients. These measures are usually sufficient, but where any gastric irritation remains, care must be taken lest it fall into the chronic form. Bland and unirritating articles of diet and an effervescing soda mixture would be the line of treatment to follow.

In the treatment of chronic urticaria the study of the etiology is of the greatest importance. This not only means the original cause, but also the exciting causes of fresh outbreaks. Careful inquiry should be made into the habits of the patient, and the conditions under which the eruption comes out. The urine should be examined, and a routine examination of every organ and its functions may be required. In the larger percentage of cases it is the alimentary canal with which we have most to do. The diet should be carefully regulated. Fermentable articles, such as pastry, highly seasoned or sugared foods, and starchy foods should be restricted. Beer, etc., should be avoided, and alcohol should be very sparingly taken, if at all. All fruits, especially strawberries, should be avoided, except perhaps baked apples. Restrict nuts, fish, etc. A fair amount of meat may be allowed to those over two years of age. It is well to write out a diet list for the patient so as to insure the careful following out of your orders. The bowels must be carefully regulated,

the salines probably acting the kindliest. Intestinal antiseptics afford valuable assistance.

Antipyrin and antifebrin in ten grain doses will often cut short an outbreak, and are sometimes curative. In some of the apparently causeless cases a steady course of arsenic in small doses and long continued is good treatment, but it must never be given when the urticaria is connected with disorders of the alimentary canal. Bromide of potassium is used by some with fair success, and quinine in full doses is successful in some cases, but it must be remembered that quinine is a causative factor in certain cases. More depends on a rational, carefully planned treatment than on specifics, and much depends on the co-operation of the patient.

Local treatment is very important. Scratching has a most injurious effect, but to tell the patient not to scratch is useless unless relief is afforded in other ways. The clothing and bedding should be light and unirritating, but at the same time the patient must be guarded against chills. The same remedies do for both acute and chronic cases. Alkaline baths, warm but not hot, are useful. The following mixture is good:

Potassii carbonatis℥viij
Sodii carbonatis℥vi
Sodii boratis℥iv

Misce.

Sig.—Mix two teaspoonfuls with an equal quantity of starch to each gallon of water for the bath each night.

The alkaline bath may be mixed with scalded bran instead of starch. Care must be taken after the bath, as a subsequent exposure is liable to bring on an attack. Dusting freely with flour relieves acute cases. Sponging with vinegar and water, or citric acid and chloroform water is recommended by some. The disinfectants used in this way are very beneficial. Camphor ball or menthol may be rubbed on obstinately itching spots. Ointments have their usefulness. The following is good:

Bismuthic subnitratis℥ii
Zinci oxidi℥ss
Glycerini℥iss
Acid carbolici liq.....mxxv
Vaseline ad ℥vi

Misce.

Sig.—Apply on body with finger or brush each night after bath.

Acute cases yield most readily and chronic cases in children may be temporarily checked by keeping them in bed.

THE PRESENT STATUS OF SYMPATHECTOMY*

By Henry La Motte, M. D.,
Assistant Surgeon, U. S. Navy; Oculist to St. Mark's Hospital, Salt Lake City
SALT LAKE CITY, UTAH

The name "sympathectomy" has, almost by common consent of those interested, come to mean any operation on the sympathetic nervous system in the neck, but it usually refers to the removal of one or more of the cervical ganglia. The removal of the three ganglia on both sides has been done for the relief of epilepsy, Graves' disease, and glaucoma; and the excision of the two upper ganglia on one or both sides for the relief of glaucoma, epilepsy, optic nerve atrophy, and Graves' disease; and the operation upon the superior ganglion on one side (the most common operation) for the various varieties of glaucoma, optic nerve atrophy, and hydophthalmos.

These many pathologic conditions, treated by practically different operations, have given rise to much confusion in the minds of medical men, who see in the same medical journal on one page an article pronouncing sympathectomy "all right," and on another page the report of a disgusted operator who brands sympathectomy with a positive "no good."

Let us arrange matters a bit, and see if there is some ground upon which we can all agree. Total sympathectomy on both sides has been done in five cases, and on the two upper ganglia in about thirty cases for the relief of epilepsy, with the report of marked improvement on about half the cases operated (Hopkins, in paper read before the R. M. I. S. M. Ass'n, 1903). Total bilateral sympathectomy in exophthalmic goitre is followed by a larger percentage of cures than any other procedure. Thus far no deaths have been reported (Ball, in paper read before the

*Read before the Utah State Medical Association, May 9 and 10, 1905.

A. M. A., 1904, analyzing all cases reported to date showing 63 per cent cures, 18 per cent improvement, 18 per cent failures). In less complete operations the cures have been fewer, and the mortality greater. Four cases of hydrophthalmos, treated by various operations on the sympathetic in the neck, gave negative results (Grunert: Versammlung der Ophthalmologischen Gesellschaft, 1900).

Bilateral and unilateral resection of the superior cervical ganglion for optic nerve atrophy has been done in eight reported cases, with four failures and four improvements (Ball).

This in a measure clears a complicated question, and now we come to the operation of sympathectomy for glaucoma, and we have "confusion worse confounded." Many physicians, and oculists among them, regard one case of glaucoma just as good to argue from as any other case of glaucoma. This attitude reminds me of Huckleberry Finn's case of mumps.

"Mumps, your granny! They don't sit up with people that's got the mumps."

"They don't, don't they? You better bet they do with these mumps. These mumps is different. It's mixed up with other things."

"What other things?"

"Well, measles, and whooping cough, and erysipelas, and consumption, and yellow janders, and brain fever, and I don't know what all."

"Well, what in nation do they call it mumps for?"

"'Cos that's what it starts with."

"Well, there ain't no sense in it. A man might stump his toe, an' take pison and fall down the well and break his neck and bust his brains out and somebody come along and ask what killed him, an' some numskull up an' says, 'Why, he stumped his toe.' Would there be any sense in that? No, and there ain't no sense in this nuther."

A case of any kind of glaucoma allowed to proceed to destruction of the optic nerve fibres or to cataract or to obliteration of the filtration angle is no fit case to quote in connection with this operation; and yet the statistics are just loaded with such cases. Those of us who have had good results from this operation claim for it a larger percentage of cures in simple progressive glaucoma, when the operation is done reasonably early in the disease, than is afforded by any other procedure, medical or surgical.

This operation presents a better showing in cases of hemorrhagic glaucoma than any other procedure (seven cases of cures from seven operations), and it is as successful an operation as iridectomy in acute glaucoma if done early. I for one do not argue for sympathectomy in any case of glaucoma of such long standing that eserine has lost the power of overcoming the mydriasis.

With this explanation I will give you the reported statistics so far as I have been able to get them to date of sympathectomy for glaucoma:

Total operations	207
Improved	121
Unimproved	34
Worse	6

Temp. imp. 10; negative 36. Sixty per cent of all reported cases show improvement.

Of these about one-third are from America, and two-thirds are from abroad.

A brief consideration of the anatomy, physiology, and pathology of the sympathetic in its relation to the eye will not be amiss at this time, with a view to determine the rationale of operations on the sympathetic for eye diseases.

The sympathetic system consists principally of two ganglionated cords, which lie partly in front and partly at the side of the vertebral column, extending from the skull to the coccyx. The ganglia correspond in number and position with the vertebræ upon which they lie, except in the neck, where there are but three ganglia. The spinal nerves, from both anterior and posterior roots, are closely connected with the ganglia of the sympathetic by communicating rami.

From the communicating rami that connect the first, second and third dorsal nerves with the sympathetic, fibres ascend through that nerve to the superior ganglion, and from it are given off in bundles that ascend in the plexus around the internal carotid artery, and reach the eye through the nasal branch of the ophthalmic nerve (first division of the fifth), and through the long ciliary nerves which perforate the sclera they are distributed to the iris—the ciliary muscle and the cornea. These are the fibres which when stimulated cause dilatation of the pupil.

Fibres from the fourth and fifth dorsal nerves and the upper sympathetic ganglion supply certain small muscular fibres of the orbit. Other fibres from nerves through the first sympathetic ganglion govern vasodilatation and constriction in retina, ciliary body, and iris, and secretion, particularly of the lachrymal gland.

Stimulation of the cervical sympathetic causes dilatation of the pupil and increased tension of the eye, and this effect is through direct stimulation of dilator muscular fibres in the iris and increased secretion of aqueous. It is no argument to say that this is not so because there are no dilator muscles of the iris. Such argument is no more reasonable than one in which a premise is based on the fact that man has no right leg.

Lodato (Klin. Mondtsbl. für Augenheilkunde, 1st Vol., 1903, p. 329) describes a series of experiments by which a small foreign body was introduced into the superior cervical ganglion of the sympathetic, producing in all cases a rise of intraocular tension, even when the dilatation of the pupil was by other means controlled. A curious fact in this connection is that there is an anemia of the tissues of the orbit and of the retina and a decreased secretion of tears at the same time that increased secretion of aqueous occurs from electrical stimulation of the sympathetic.

All experimenters argue that excision of the superior cervical ganglion, even in cases where eye tension is normal, produces a fall in the intraocular tension and a contraction of the pupil (Selenkowski and Rosenburg in Jahresbuch für Ophthalmologie, 1900; Livinsohn, Archir für Ophthalmologie, 1902; Herth, ibid, for 1900).

That the contraction of the pupil is due to a paralysis of the dilator apparatus, and not to a stimulation of the constrictor, is to my mind self-evident. In the patients upon whom sympathectomy has been done the myosis disappears under profound narcosis from ether or chloroform. The sphincter pupillæ is then temporarily paralyzed.

After sympathectomy there is an increased vascular injection of the eye-ground on the operated side. This gives the reason for sympathectomy in recent and beginning optic nerve atrophy.

The ciliary ganglion is probably a part of the sympathetic removed from close touch with the rest of the system, and it seems to contain the centers for impulses directly antagonistic to those of the superior cervical ganglion.

In sections of cervical sympathetic ganglia removed for glaucoma, as far as I am able to ascertain, these are pretty constant variations from the normal.

In long-standing cases of glaucoma of all varieties there is marked increased pigmentation of the ganglion cells, irregularity in the shape of these cells. In hemorrhagic glaucoma there is increased vascularity and areas of round-cell infiltration surrounding most of the vessels.

In simple progressive glaucoma the most marked change seems to be an increase of the connective tissue surrounding the ganglion cells. I present for your inspection three sections from the superior ganglion of the sympathetic of a patient with progressive glaucoma, age twenty-eight. By the side of these specimens are sections from the same ganglion of a man of thirty-two who had no eye symptoms. I think there can be no question as to the increase of connective tissue elements in the pathologic specimen.

I present for your inspection two patients upon whom the operation of sympathectomy has been done for the relief of simple progressive glaucoma. Neither of these cases has been before reported.

Case 1.—This case operated upon for me by Dr. Niles, March 30, 1903, over two years ago. He was a railroad engineer who had been suffering from decreasing acuity of vision for fourteen months, with periodical headaches, during which he saw halos about lights. The attacks became more frequent after long runs on the engine. Condition was diagnosed as glaucoma by Dr. Lindsay and Dr. Hughes before I saw him. These gentlemen advised iridectomy each independently of the other. Patient, who was indulging in the reprehensible practice of "shopping among the doctors," declined operation in each case, stating to me afterward that his reason for declining was that the operation as explained by the doctors would disfigure his eye, and he would lose his position on the railroad.

My diagnosis agreed with that of the other oculists who had seen the case, though at that

time I did not know of any other oculist having been consulted. I advised sympathectomy, and the operation was agreed to by the patient, as it would not, in case of a success, interfere with his means of livelihood.

The result has been from the first a perfect success. The man was able to resume his duties as engineer and retain that position. His eyes are comfortable, and he has had no pain, and sees no halos about lights since the operation. This is one of the cases where sympathectomy on one side has exerted a beneficial action on glaucomatous eyes on both sides. Before the operation his accommodation and central vision was much impaired on both sides; his field of vision was constricted only on the left. The accommodation and central vision is now normal on both sides. Concentric contraction of the left field remains as before.

Case 2.—This patient was so unfortunate as to lose his right eye in an accident sixteen years ago. He was referred to me by Dr. E. O. Jones, twelve months ago, at which time he complained of scintillating scotoma and loss of accommodation. He was treated by hypodermics of strychnia for several months, at the end of which time during an attack of pain I noticed a slight cupping of the nerve head and a not very marked dilatation and sluggishness of the pupil. I put him on eserine, and he was benefited. After six months of varying misfortunes, during which he was obliged to use the miotic constantly, he consented to an operation, which was performed by Dr. Jones. Since the operation his vision has improved from 20-70 to 20-20; he has good accommodation; his field is somewhat contracted; he still sees his scotomata and occasionally suffers from headaches which he refers to his eye, but they are infrequent and not so bad as before the operation.

He is, however, perfectly able to resume his occupation, and his acuity of vision and his accommodation are normal. It would not be strange if he were inclined to worry about his eye, and perhaps unintentionally magnify to himself any symptoms that point to the eye. Remember he has lost one eye through an explosion. The lost eye was enucleated after the danger of sympathetic inflammation had been explained to him. He has had scintillating scotoma (a sufficiently alarming condition, though not a serious symptom), and he has been through the beginning of glaucoma in his remaining eye, and has had a major operation done.

I do not wonder that he worries about himself, but I can see, perhaps better than he, the great improvement in his condition during the last three months.

"The Relation of the Cervical Sympathetic to the Eye," was the subject of a symposium at the American Medical Association meeting in 1903. Papers were read by de Schweinitz of Philadelphia, Wilder of Chicago, Ball of St. Louis, and Weeks of New York; and these papers were extensively discussed by Black of Denver, Savage of Nashville, Suker of Chicago, and Jackson of Denver. These men are all teachers of ophthalmology, and are men whose opinions carry weight. The consensus of opinion there expressed was that in sympathectomy we have a most valuable operation for simple progressive glaucoma and hemorrhagic glaucoma and an operation to fall back upon in case iridectomy fails to do good in other varieties of the disease.

In his final summing up at the close of the discussion Dr. Wilder said: "It is not fair to condemn the operation when it fails to restore an eye that has atrophy of the optic nerve, or when it fails to relieve pain in an eye lost from glaucoma. It should be given an early trial."

Since the reading of those papers many successful operations along the lines proposed have been reported, and the only modification of the conclusions arrived at seems to be that sympathectomy should be done in the suitable cases prior to an iridectomy, for, to get the best results from sympathectomy, we should have the assistance of the counteracting influence of the sphincter pupillæ, this assistance being lost after an iridectomy.

From what has been said, it will be easily seen that this operation will never be a popular one at the hands of those who doubt their own ability to make an early diagnosis in cases of progressive glaucoma, and those who, while unwilling to attempt a major surgical operation, are still unwilling to call to their assistance the help of a general surgeon.

DISCUSSION

Dr. LaMotte presented several patients, who came to attend the meetings at his request, and to demonstrate the results that had been obtained by sympathectomy. One was a railroad engineer, and the present status of his condition shows that the operation in this case has been a complete success. The operation was performed by Dr. Root. The second case presented was equally satisfactory. The operation was done by Dr. Johnson. The third case presented was one of progressive glaucoma.

Dr. Snow: I have listened with great interest to the reading of this paper. Personally, my experience in this line of work is rather limited, as I have not seen many cases that were operated on in this manner, and those that I have seen, upon whom the operation of sympathectomy was performed, did not impress me very favorably. The doctor states, I believe, that something like 60 per cent of these cases of glaucoma and allied conditions had been improved by the operation. I would like to inquire how long after the operation these favorable results are apparent. The figures given by the doctor are rather surprising to me, as I did not know that the percentage of cures and extent of improvement would be so high. In a number of cases that I have seen, the early use of eserine has had a very favorable effect, and it ought to be used more extensively. This operation I believe is well worthy of a trial in certain classes of cases, especially, it seems to me, in that type known as hemorrhagic glaucoma, where you are so likely to have a hemorrhage after an iridectomy, etc.; also in cases where the eye is totally blind, and the pain has become severe or unbearable; but I often find and believe that some patients prefer to endure the pain and inconvenience rather than submit to the removal of the eyeball. In these cases I think sympathectomy should be tried for the relief of pain.

Dr. Kerr: Sympathectomy is a very interesting surgical procedure, and I think Dr. LaMotte is entitled to the distinction of having been the first to introduce or recommend this operation. One of my own patients was the first, I believe, to submit to the operation in this city. The results obtained from the operation in that case have been highly satisfactory. The patient is now living in Illinois, and the last report which I received from her shows that the relief afforded has been continuous and complete, and this, I might add, was a glaucomatous condition. It seemed to follow a severe shock. The patient suffered a shock when she learned that her husband had committed suicide, and it was quite soon after this startling information reached her that symptoms began to develop. It is interesting to note that in quite a large percentage of these cases, the question of shock comes into consideration or seems to play a peculiar rôle.

I recall still another case in which shock seems to have played an important part. In this the patient met with an accident, and shortly afterwards the condition began to develop. Associated with these symptoms there was marked hematuria, and the patient suffered very much from a severe headache and a pain in the back. As these symptoms became suspicious I called in Dr. LaMotte, and he recommended that the operation of sympatheticomy be performed.

Dr. E. O. Jones: I wish to say a few words about this operation. I have had only one case in which the operation was performed, but so far as the operation itself is concerned, it is such a simple and easy one that, if the results upon these conditions of the eye are anything like what has been reported, there can be no question about the advisability of recommending the operation when called for. The operation consists in entering the neck along the posterior border of the sternomastoid muscle and raising it, pressing aside the sheath of the carotid artery, when the sympathetic trunk is plainly brought to sight, and here it will be seen lying upon the anterior vertebral muscles, and it is quite a simple matter to remove one or all of the sympathetic ganglia. This was the only case in which I have performed the operation of sympathectomy for the relief of glaucoma, but I have removed all three for the relief or cure of epilepsy and for exophthalmic goitre. As it is a simple and easy operation to perform, I consider it a safe procedure.

Dr. LaMotte: In reply to Dr. Snow's question, as to the length of time required for results to become manifest, I thought that I made that part of the subject clear in saying that there were 60 per cent of the cases operated upon to May 1, 1903 that were reported improved; but this does not include all cases that have been reported in the medical journals up to the present time. Some of these reports state that the improvement becomes apparent almost immediately after the operation.

Some operators have done the operation of sympathectomy apparently with the idea of throwing it into disrepute; and every once in a while I read reports of one or two cases that some man has operated upon, and upon the meagre information so acquired a general deduction is made as to the possibilities or limitations of the operation. Only recently two such cases were reported, coming from New York, in which one operator said that he had already done a sympathectomy, to relieve an eye blind for two years, and I think under the circumstances that he might as well have amputated a leg.

As to Dr. Snow's remark that it might be tried for the relief of pain attending absolute glaucoma. It might in a certain number of cases succeed in relieving intraocular tension, but if the eye is blind, and the pain is due to the great increase of fluid in the eye, and the fluids cannot get out, the more rational operation in my mind is an iridectomy. I say that the operation by sympathetomy should be limited to simple progressive glaucoma and of the hemorrhagic variety before the pupils to do their fine work. There are some forty or fifty cases reported where the patient has been benefited, and it simply burdens the question with a num-

ber of side issues that should not be admitted. So I say that the operation should be limited to simple progressive glaucoma and of the hemorrhagic variety filtration of the angle occurs.

Dr. Kerr states that his patient was one of the first or the first one in this city to be operated upon, but I beg to remind him that it was one of the soldiers at Fort Douglas on whom it was first performed, and in this case an iridectomy was first done, and then a sympathectomy followed that, but on the other side, and as a result of the operations the patient got absolute and complete relief, and vision became normal, and is perfectly normal at the present time. I believe if we could get a correct report of cases operated upon before obliteration of the fil tration angle, we could say that the percentage of cures would reach 100. I have yet to hear of a case of simple progressive glaucoma that has not remained well when the operation was done reasonably early. I know of one case in which it is stated the patient was relieved for a while, but was as bad off as ever in six months. The operator believes now that in that case the removal was not complete, or that he removed the middle cervical ganglion, and this is the only case that I know of where results have not been permanent.

HOSPITAL BULLETIN

ST. BARNABAS HOSPITAL

MINNEAPOLIS

LARGE FIBROCYSTIC GOITRE

IN THE SERVICE OF DR. W. E. ROCHFORD

Mrs. L, aged 50, German, born in Columbus, Ohio, mother of 12 children. When two years old she moved to Minnesota, where she has since resided continuously. She was married at 21; oldest child 28 years, youngest 6 years.



Fig. 1. Before Operation.



Fig. 2. After Operation.

Family history, good. Father died at 73, mother at 81. No member of her family had goitre. Aside from childhood diseases, she has never been ill.

About twenty-six years ago she first noticed a swelling in the neck, which seemed to grow more rapidly at each childbirth. She never experienced any special inconvenience from it, and no pressure symptoms. About two months ago she sustained a contusion of the goitre, which caused considerable hemorrhage into the tumors. Discoloration on one side and a slight rise of temperature followed. A few days of rest in bed, with cold applications, relieved the symptoms.

The goitre first commenced on the right side,

and ten years later began to develop more rapidly on the left side.

The patient entered the hospital September 13, for operation. Examination of the goitre showed it to be quite soft with a shallow groove near the middle, dividing it into two unequal parts. Until lately the patient had experienced no difficulty about breathing, and could sleep in the recumbent position. An operation was now decided upon, and after two days of preparatory treatment in the hospital, chloroform was given and an extensive transverse-curved incision was made over the tumor. The enlarged veins in the skin were cut between ligatures, and the incision continued through the skin fasciæ and platysma muscles. The goitre was exposed, and with the hand the enucleation was begun. The sternocleidomastoid muscles were retracted, and the shelling out of the tumor continued with the hand, bleeding vessels being tied as the operation progressed. When the large mass was lifted out and turned over on one side the rings of the trachea could be plainly seen. Great care was taken not to injure the recurrent laryngeal nerves. The operation was completed with the scalpel. Lying alongside of the trachea there was quite a large gland, which appeared to be a large lymphatic. A part of it was removed and it proved to be parathyroid tissue. The remainder of the gland was left together with another gland of similar tissue.

In removing the large mass, while lifting it up and out, the cystic portion ruptured, and a dark bloody fluid poured out. After carefully tying all the bleeding points and sponging out the wound cavity with normal salt solution, the cut muscles were re-united, and the wound was closed by a continuous suture. A small piece of gauze was left in each angle of the wound for drainage. Very little oozing followed, and on the second day when the wound was dressed it was not necessary to use further drainage.

The operation consumed less than an hour from the beginning of anesthesia. The hemorrhage was not severe, and the patient seemed to be in an excellent condition all through the operation, the pulse and breathing remaining good.

Soon after the patient was placed in bed the attending nurse came hurrying up to the operating-room, and stated that the patient was in a bad condition. I went immediately to the patient's room, and found her body quite cold, and pulse imperceptible at the wrist, with symptoms of profound shock. More hot packs were immediately placed around the patient, hypodermics of strychnine and adrenalin were given, followed by hypodermoclysis, and a little later with rectal enemas of whiskey and coffee. The condition of the patient did not improve any for the first six hours, and then gradually a change for the better set in. The pulse could now be counted at the wrist and was 148, respiration 38, and temperature normal.

To the faithful and efficient work on the part of nurse Metca, I feel that I owe the life of this patient. The change from an almost hopeless condition to one of assurance came rapidly the following morning, and from this on the patient picked up rapidly, and was able to leave the hospital practically recovered on the thirteenth day after the operation. The wound never gave any trouble and healed without infection. There was no oozing after the first dressing. The tumor was composed of about two-thirds fibrous tisues, and the remaining portion cystic. The cystic part contained, besides bloody fluid, the residue of recent hemorrhages. The voice was a little hoarse or husky for the first ten days.

The photographs were taken the day before operation and on the day the patient left the hospital.

MICROSCOPIC EXAMINATION

The parathyroid gland shows less connective tissue than the thyroid. The glands are more numerous. They are closely placed, and contain more colloid substance and some blood in the lumen, and many have leucocytes also. The epithelial lining is not so high as in the thyroid, but is not degenerated. There is no evidence of malignancy.

The tumor is composed of glands, connective tissue, and blood vessels. At one side apears the wall of a cyst. The glands are racemose, lined by a single layer of low cuboidal epithelium, Many of them contain some colloid substance, and others are filled with blood, and there are also blood sinuses. The connective tissue, in places, has crowded out the gland structure, and it also surrounds the cyst wall. Much of the epithelium of the glands is normal, but shows some degeneration in places. There is no evidence of malignancy.

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POST-GRADUATE MEDICAL SCHOOL OF THE UNIVERSITY OF MINNESOTA

At a meeting of the faculty of the College of Medicine and Surgery of the University of Minnesota, on December 1st, a post-graduate course was established. The scheme is to be worked out in the coming weeks, and will be perfected in 1906. The course is to consist of instruction in laboratory work and of such chemical instruction as may be determined.

There have been many requests for post-graduate work in the various laboratories from physicians in Minnesota and the Dakotas, and as the new building now under construction will relieve the present congestion, the physician will have an opportunity to refresh himself in the subjects of pathology, bacteriology, histology, practical and sanitary hygiene, and anatomy. Chemical instruction will not be offered until the new University State Hospital is under way.

The courses will all be practical, and the opportunities for instruction are exceptionally fine. A large attendance is not desired, and small sections only will be encouraged during the year 1906.

ADVERTISING IN MEDICAL JOURNALS

In many of the medical journals throughout the country there is an awakening, a hesitancy, a sudden uprising, or a return to a somnolent state concerning what should, or what should not, appear in the advertising pages.

THE JOURNAL-LANCET is one to undergo a certain amount of house cleaning; one room at a time perhaps, but eventually, and at no distant date, the paper will be free from objectionable matter. It will be impossible to expunge all advertising to suit the most fastidious. Some of the contracts for advertising will not expire for some time, neither would it be fair to condemn certain proprietary preparations until their composition is more fully investigated.

The Department of Pharmacy is preparing a book that will guide medical journals in the selection of their advertisers, but until definite information is acquired we shall continue to receive advertising matter that appears unobjectionable.

Many of the advertisers of proprietary articles furnish formulæ that are conclusive: the drugs themselves are known, but the preparation and methods of combination are protected. Articles which make extravagant claims are to be excluded unless the promotors are willing to moderate the claims for their therapeutic values.

It is frequently a waste of time to vigorously attack a certain product unless it is notoriously bad. A better plan is to educate the physician to employ reliable drugs compounded by reliable firms, or to encourage physicians to work out their own formulæ and order them prepared by responsible druggists. For a time, however, a number of protected remedies will be employed by the busy practictioner.

At the Portland meeting, Dr. Frank Billings read an interesting and valuable paper on "Secret Nostrums," and referred to preparations that were advertised in most of the medical journals. One enterprising firm at once abstracted a portion of the paper, and turned it to its own profit by assuming that Dr. Billings referred to

one of the numerous substitutes for its own emulsion.

The Journal of the A. M. A. has already dropped many of its former advertisements, and will doubtless drop many more unless the manufacturers are able to convince the Council that their preparations are as representd.

All products that contain dangerous drugs and go to the laity will, of course, be excluded, but it hardly seems necessary to discontinue the exploitation of a harmless compound that is either used externally or is only recommended for a few simple diseases. The advertisers will continue to reach the physicians, and many physicians will call for prepared preparations, rather than take the time to write out a thought-demanding prescription. It is possible also that the reform movement against patent and proprietary remedies may be overdone, and the doctor and the patient may sympathize with the under dog, as has been the case in many spasmodic movements. One thing is assured, however, the so-called "red-clause" advertisments that have been so forcibly brought out by the Ladies' Home Journal and Collier's Weekly will not be in the better class of medical journals.

Unfortunately, the average medical publication depends upon the advertiser for its existence, and therefore the only remedy lies with the profession. The doctor must support the journal or the advertiser will.

Many of the journals of the state associations are in danger of extermination unless they are loyally supported by the profession. In the large states where the membership of the societies is relative to the population, the publication of a journal may be borne by the society without embarrassment, but in the smaller states neither the membership nor the revenues of the society is equal to the demands unless assisted by the advertisers.

The Journal-Lancet expects to carry only clean advertising, and, by the exclusion of objectionable matter, hopes to acquire better advertisments. Hospitals, sanataria, and physicians' cards may be added to the advertising pages. The well-known chemical houses and manufacturers of staple articles, publishing houses, and such proprietary products as are approved by the Department of Pharmacy will be continued. This is the time when new contracts are made, and, if by chance the bounds are overstepped, due corrections will be made. Give the journals time for investigation, and when a clean journal is presented to you for subscription take it in preference to the one that carries any kind of an advertisement that is carried simply to pay the running expenses of publication.

Reputable firms have nothing to fear from this crusade. On the other hand, they have much to gain; for the member of every state association publishing a journal will look to its pages to see what products receive the profession's endorsement. Every member of a state medical association will scrutinize its own journal very carefully, will criticize the advertising pages, and will naturally patronize the advertiser receiving the endorsement that admission to the association journal carries. Every district and county society must, of necessity, give the state journal hearty support by encouraging the advertisers asked to help support its state journal.

The Journal-Lancet is not exclusively a state journal, for it had a large constituency before it became the journal of the State Association, and its ambition is to extend its sphere of influence into every northwestern state, and even into other fields.

THE ETHICS OF CONSULTATION

B. D. Bosworth, Knoxville, Tenn. (Journal A. M. A.), calls consultation the highest function in medical practice and protests against the unreasonable neglect into which it has fallen. It is a duty, he thinks, of the young practitioner to avail himself of the counsel of the more experienced men with whom he has begun to compete. He also believes in exclusiveness in consultation, no matter how far the bars may have been let down, and is thankful that there is no law to prevent the exercise of individual judgment and discretion as to whom we shall meet in consultation. It is better that the medical attendant should first propose the calling of counsel, but the choice of the patient's family should be respected. He gives the mode of proceeding in an ideal consultation, and the need of conciseness and brevity, both for the sake of the patient and his friends, is insisted on, and he makes a special point that unless it is demanded by the family physician himself, and for good and sufficient reasons, no one who has been called as a consultant is ever justified in taking charge of the case, or should ever intimate that any part of the treatment did not receive his assent. Ignorance, he thinks, is the invariable excuse for the flagrant violation of ethical principles in these matters. The members of the profession ought to give more careful study to the Principles of Ethics that have been promulgated by the Association.

NEWS ITEMS

Dr. H. T. Sherman has moved from Becker to Big Lake.

Dr. T. A. Bayley, of Big Lake, has moved to Springfield.

Dr. C. T. Grivelly has given up practice at Young America.

Dr. W. F. McManus, of Ellendale, N. D., has moved to Duluth.

Dr. J. G. MacNamara, of St. Paul, has moved to Farmington.

Dr. J. E. Gemmel, of Rush City, died last month at the age of 45.

Dr. John Hewins, has moved from Neche, N. D., to Minot, N. D.

Dr. Willian Pfisterer died at New Ulm last month at the age of 40.

Leonard, N. D., is without a physician, Dr. McEssey having moved to Lankin.

Dr. Edward Darrow has taken possession of his new hospital building at Akeley.

Dr. C. A. Anderson, a 1905 graduate of the State University, has located at Easton.

Dr. T. B. Francis has moved from Edgerton to Fairmont, where he formerly practiced.

The City and County Hospital Association of Albert Lea has leased the Wilcox hospital.

Dr. John A. McKay, of Langdon, N. D., will spend a year in Chicago in post-graduate work.

Dr. H. L. Knights, of Adams, has returned from Berlin, where he has spent a year in study.

Dr. C. F. McCann, of Fairmont, has decided to go South and will locate in Oklahoma.

The new hospital at Oakes, N. D., conducted by Dr. H. P. Boardman, has been opened.

Dr. Carl Klemmer, of Minot, N. D., has resumed practice after a year spent in post-graduate work.

Dr. S. A. Berg, who has been studying in Chicago for the past year, has located at Mayville, N. D.

Dr. Albert A. Tofte and Dr. Josephine Bingham, of Ruthton, were married on Nov. 29th at Pipestone.

Dr. Enoch Haugseth, State University, '02, who has been practising at Detroit, has located at Lake Park.

Dr. E. A. Lupton, of Minneapolis has moved to Grand Rapids. Dr. Lupton is a Rush graduate.

Prof. Henle and Dr. Fittig, of Breslau, were visitors of St. Mary's Hospital, Rochester, last month.

Dr. J. P. Rathbun of Faulkton, S. D., was married last month to Miss Susie Y. Ellis, of Indianapolis, Ind.

Dr. J. A. Smeallie, of Duluth, died last month at Cass Lake where he was living in a tent for his health.

Dr. C. J. Montgomery, of Overly, N. D., was married last month to Miss Grace Graham, of Petersburg, N. D.

Dr. A. M. Fisher, a recent graduate of Northwestern University, Chicago, has located at Underwood, N. D.

John Manning, the proprietor of the hot springs at Boulder, Montana, is to build a hospital, to cost $10,000.

The report that Dr. D. F. Wood, of Hanska, had moved to Kansas, is not true. Dr. Wood remains at Hanska.

Dr. R. G. Stevens has moved from Brewster to Heron Lake. Dr. Stevens is a recent graduate of the State University.

Dr. Wm. S. Frost, State University, '04, has decided to locate at Lilly, S. D., instead of Kenmare, N. D., as recently reported.

Dr. N. J. Nessa, a State University graduate, class of '05, has moved from Madelia to Brewster. He goes to an unoccupied field.

The first building work on the State Sanatorium at Walker was begun last month. A cottage, to cost $2,000 will be finished in January.

Dr. J. Harlan Stuart, of Minneapolis, will hereafter limit his practice to *x*-ray work. electrotherapeutics, consultation, and office work.

Dr. C. E. Gates, State University, class of '04, who recently located at Luverne, has formed a partnership with Dr. H. P. Sawyer, of Goodhue.

Dr. N. O. Pearce, of Duluth, a recent graduate of the State University, was married on the 6th inst., to Miss. Elizabeth C. Harden, of Minneapolis.

On Thanksgiving day the directors of St. Luke's Hospital, St. Paul, received a gift of $30,000 from Mr. D. C. and Mr. F. P. Shepard, to pay off the hospital mortgage.

Dr. Harry E. Sutton, a graduate of the State University, now located at Cold Springs, S. D., was married last month to Miss Rosamond M. Garner, of Spokane, Wash.

Dr. Carl Nootnagel, of Alexandria, the father of Dr. Charles Nootnagel, of Minneapolis, died last month at the age of 76. He had practiced nearly 30 years in Douglas county.

Dr. J. P. Dougherty, of Chicago, has entered into partnership with Dr. C. A. Lester, of Nabasha, and they have purchased the office furniture and equipment of the late Dr. Milligan.

Dr. Thomas Sullivan, of Springfield, died last month of heart failure, at the age of 48. He was a graduate of Trinity College of Toronto, and had practiced at Springfield for twenty-two years.

The Northwestern Hospital of Minneapolis has let the contract for a new wing addition to its building. It will be four stories high, and will cost $40,000. The construction will be reinforced concrete.

Dr. A. A. Stemsrud, State University, '01, of Dawson, was married last month to Miss Minnie A. Lindell, of Grove City. Miss Lindell is a graduate nurse of the Northwestern Hospital, class of 1903.

Dr. J. C. Boehm, of St. Cloud, was recently appointed, by the governor, chairman of the Advisory Board to the Board of Regents, whose office is to advise the Board of Regents in matters pertaining to the medical department of the State University.

The Interurban Academy of Medicine, of Duluth and Superior, at its annual meeting last month, elected the following officers: President, Dr. L. A. Potter, Superior, Wis.; Vice-President, Dr. Charles McComb, Duluth; Secretary and Treasurer, Dr. Lewis Moody, Superior.

The Alkaloidal Clincic, of Chicago, has changed its name to The American Journal of Clinical Medicine, and has enlarged its editorial staff. Dr. W. J. Robinson, of New York City, will conduct a department of "Dermatology and Genito-urinary Diseases," and Dr. Emory Lanphear, of St. Louis, will have charge of a department of "Surgery, Obstetrics, and Gynecology."

The Piney Ridge Sanatorium, at Jenkins, recently met with a severe loss by fire, the office building, with valuable records and some stores, having been destroyed. Dr. Sandberg will rebuild at once. He reports a very successful beginning in his work, and feels under deep obligations to the medical profession for the support given him.

The Minnesota Valley Medical Association met at Mankato on the 5th inst., with a large attendance and a very valuable program. The following were elected officers for the next year: President, Dr. M. Sullivan, Adrian; First Vice-President, Dr. G. R. Curran, Mankato; Second Vice-President, Dr. F. P. Strathern, St. Peter; Secretary, Dr. A. G. Liedhoff, Mankato; Treasurer, Dr. G. F. Merritt, St. Peter.

PRACTICE FOR SALE

A good opening and practice worth $4,000 a year will be sold to the right man. A few office fixtures for sale. Poor health is the reason for leaving. Address A, care of this journal.

POST-GRADUATE WORK

Doctor: If you want practical post-graduate work during the fine season in the delightful city, write for particulars, to New Orleans Polyclinic, P. O. Box 797.

PHYSICIAN WANTED

A German physician in an Iowa town of 800 people and in a splendid farming community, wants a Norwegian partner as the population is mostly German and Norwegian. An excellent opening. Address "O," care of this journal.

PRACTICE FOR SALE

In a town of 350 in Southern Minnesota, mixed nationality. Practice established seven years; no competition; nearest town eight miles; country thickly settled. Practice goes to purchaser of my residence, new and modern, and cost $1,600. One-third cash. Will introduce successor. Reason for selling, I am going to the city. This is a bargain. Address "E," care of this journal.

